

# FORD



## Operator's Manual

---

NEW HOLLAND

Mower  
Series 515

Reprinted

## FOREWORD

THIS MANUAL CONTAINS INFORMATION ON THE OPERATION, MAINTENANCE, STORAGE, AND SAFETY PRECAUTIONS OF YOUR NEW FORD SERIES 515 MOWER. ALSO, INCLUDED IN THE BACK OF THIS MANUAL IS INFORMATION ON SHIPPING AND ASSEMBLY FOR THE FORD TRACTOR-EQUIPMENT DEALER. ASSEMBLY OF THE FORD SERIES 515 MOWER IS THE RESPONSIBILITY OF THE FORD TRACTOR-EQUIPMENT DEALER.

READ THIS MANUAL CAREFULLY BEFORE OPERATING YOUR MOWER. KEEP IT HANDY FOR FUTURE REFERENCE. IF, AT ANY TIME, YOU HAVE ANY QUESTIONS ABOUT YOUR MOWER, REMEMBER YOUR FORD TRACTOR-EQUIPMENT DEALER IS BEST QUALIFIED TO HELP YOU. HE HAS FACTORY-TRAINED TECHNICIANS, GENUINE FORD PARTS, AND THE CORRECT TOOLS AND EQUIPMENT TO DO THE JOB RIGHT IN THE SHORTEST POSSIBLE TIME.

SERVICE DEPARTMENT  
FORD TRACTOR DIVISION  
FORD MOTOR COMPANY

A METAL PLATE BEARING THE SERIES AND SERIAL NUMBERS OF YOUR MOWER IS ATTACHED TO THE VERTICAL MAIN FRAME IDLER SHEAVE BRACKET. RECORD BOTH THE SERIES AND SERIAL NUMBER IN THE SPACES PROVIDED BELOW. THESE NUMBERS WILL HELP YOU WHEN ORDERING PARTS FOR YOUR MOWER.

SERIES NO. \_\_\_\_\_ SERIAL NO. \_\_\_\_\_

# SERIES 14-289 MOWER ATTACHING KIT



MOTOR COMPANY

## INSTALLATION INSTRUCTIONS

When using the Series 515 Rear Mounted Mower on any of the Fordson Major Tractors or the Series 6000 Tractor, the 14-289 Category II Attaching Kit, shown in Figure 1, must be used. Before mounting the mower on any of these tractors, prepare the tractor as outlined on page 5 of the Owner's Manual, SE 8859, and disregard the paragraph on "Stabilizer Bar Brackets".

### MOUNTING PROCEDURE

Mount the mower on the tractor as follows:

1. On Series 6000 Tractors, position both stabilizers, Figure 3, in the middle set of holes.

On Major Tractors, proceed as follows:

- a. Install the check chains between the anchor bracket and the lower links as shown in Figure 2.
- b. Position the lift rods, Figure 2, in the front set of holes in the lower links. Then, adjust the lift rods to a length of 23 inches (measured from center-to-center of the attaching pins) as shown.
- c. The safety chains, Figure 2, should be wired to the lower links. This will prevent the chains from interfering with the bellcrank and from catching and dragging hay.
2. Install the two link pins, lock washers, and nuts in the upper frame as shown in Figures 2 and 3.
3. Back the tractor into position and attach the tractor lower links to the mower link pins. Secure with the tractor link pins as shown in Figures 2 and 3.
4. Attach the tractor top link, Figures 2 and 3, to the mower attaching bracket with the link pin provided with the kit. Secure with a linch pin.

**NOTE:** On these tractors the top link is usually positioned in the second hole from the front to permit the cutter bar to operate in the desired flat position and provide a range of tilt adjustment.

5. Position the break-back attaching bracket on the tractor right lower link so that the front of the bracket just touches the ball socket at the forward end of the lower link. Secure with the two carriage bolts and nuts provided in the bracket. See Figures 2 and 3.

**NOTE:** Position the bracket plate so the holes are to the rear.

6. Attach the break-back assembly to the link pin on the attaching bracket, as shown in Figures 2 and 3. Secure with the self-locking pin.
7. Remove any paint and/or dirt from the inside splines of the mower front universal joint and from the tractor P.T.O. shaft. Place a few drops of oil on the splines of the tractor P.T.O. shaft.

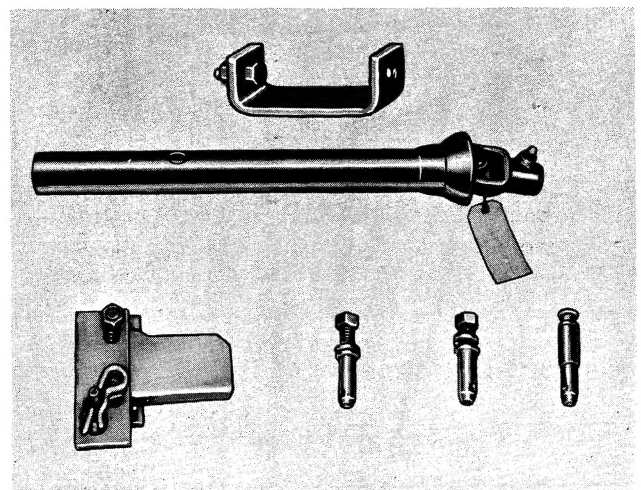


Figure 1  
Category II Attaching Kit

# INSTALLATION INSTRUCTIONS

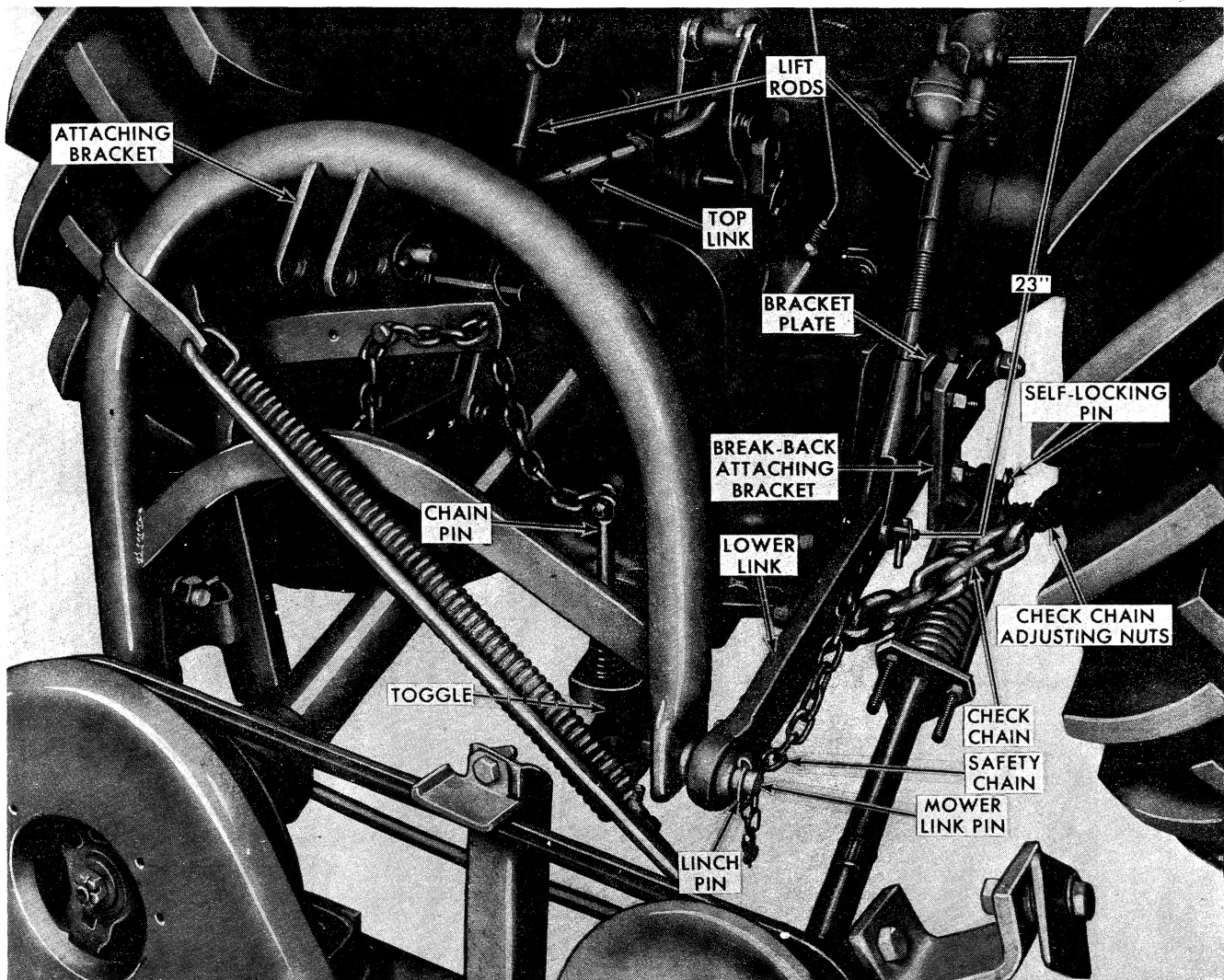


Figure 2  
Series 515 Mower Mounted on Major Tractor

**NOTE:** When attaching the Series 515 Mower to the Series 6000 Tractor or the Series 5000 Fordson Tractor with Raised P.T.O., the mower P.T.O. shaft must be shortened. See instructions on tag attached to mower P.T.O. shaft and cut so end of shaft is 24.87" from center of universal joint.

8. Depress the spring-loaded lock pin on the front universal joint of the P.T.O. and slide the joint on the tractor P.T.O. shaft until the pin locks in the groove of the shaft.

**IMPORTANT:** Do not hammer the P.T.O. front universal joint onto the tractor P.T.O. shaft.

9. Insert the chain pin, Figures 2 and 3, in the tractor drawbar and secure with the toggle in the

lower end of the pin.

10. On Major Tractors shorten the check chains with the adjusting nuts, Figure 2, until no lateral movement exists in the lower links.
11. Remove the transport lock from the mower and install a transport lock extension bracket in its place, as shown in Figure 3. Then, attach the transport lock to the extension bracket.

## DISMOUNTING PROCEDURE

To remove the mower from the tractor proceed as follows:



## INSTALLATION INSTRUCTIONS

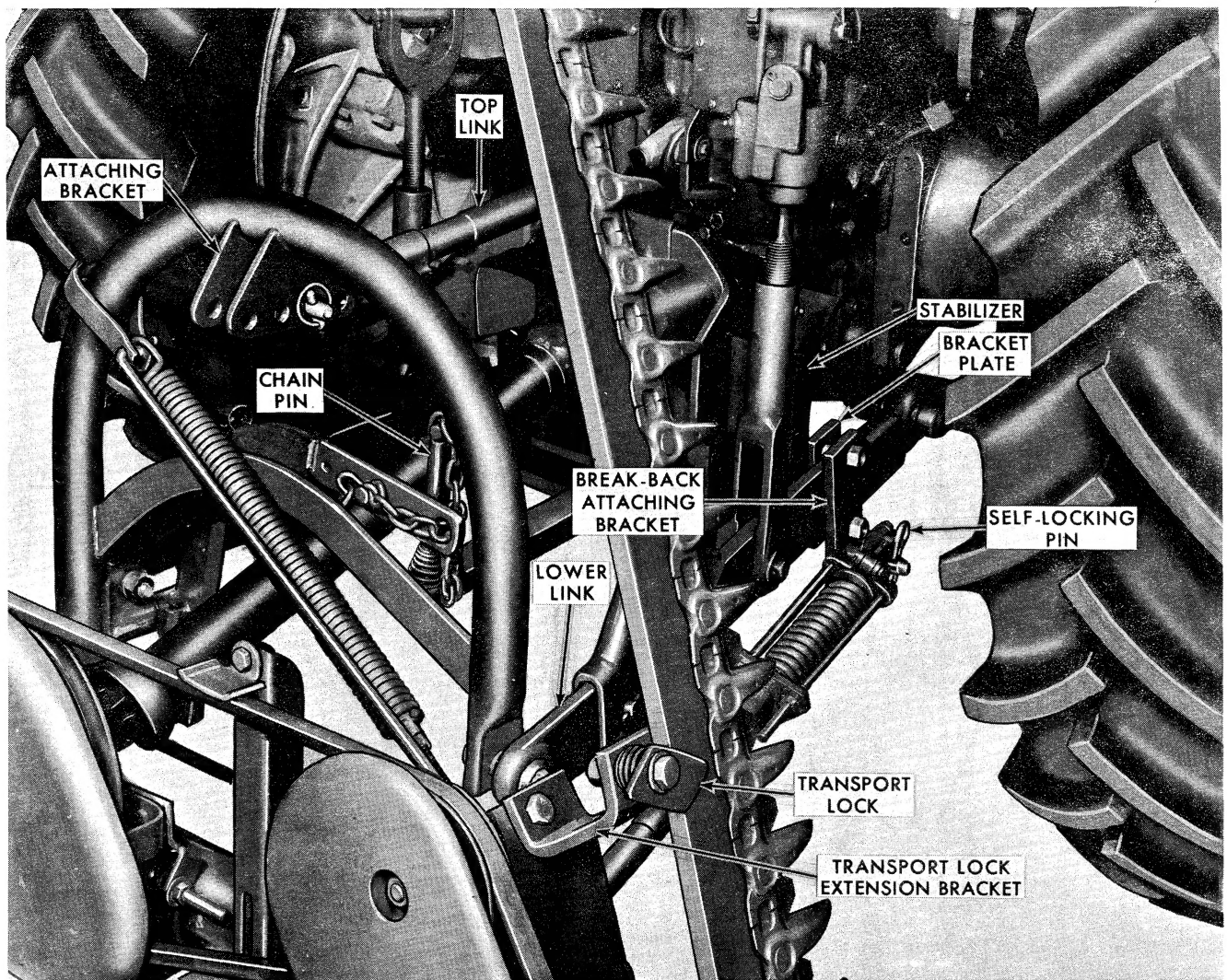


Figure 3

Series 515 Mower Mounted on Series 6000 Tractor

1. Raise the cutter bar to the transport position and secure with the transport lock as shown in Figure 3.



**CAUTION:** To hold the cutter bar away from the tractor driver, be sure the cutter bar transport lock extension bracket (furnished with the Category II Attaching Kit) is installed as shown.

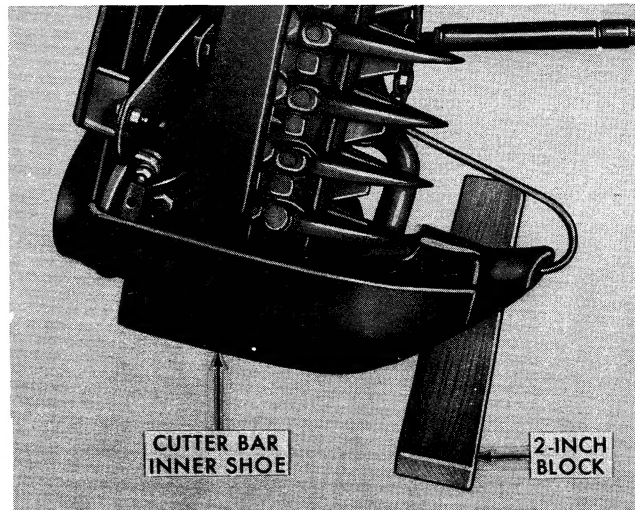
**NOTE:** On Major Tractors equipped with a raised P.T.O., raise the mower with the hydraulic lift control lever before placing the cutter bar in transport position. This will prevent the bellcrank from pressing on the universal drive, thereby eliminating any possible wear on the universal drive when the mower (with the cutter bar in transport position) is being raised.

2. Position the special mower wrench in the bottom of the lower frame. Then, hydraulically lower the mower until it is resting on the wrench.
3. Position a 2" block under the forward end of the cutter bar inner shoe as shown in Figure 4.
4. Remove the chain pin, Figures 2 and 3; from the drawbar by aligning the toggle with the pin.
5. Depress the spring-loaded lock pin on the front universal joint of the P.T.O. and slide the joint off the tractor P.T.O. shaft.
6. Disconnect the break-back assembly from its attaching bracket, Figures 2 and 3, by removing the self-locking pin and sliding the break-back assembly off the link pin.

## INSTALLATION INSTRUCTIONS

**NOTE:** *If the mower is to be stored for a prolonged period of time, it may be desirable to remove the break-back attaching bracket from the tractor right lower link. However, this will only be necessary if the attaching bracket interferes with other tractor operations.*

7. Detach the top link from the mower attaching bracket.
8. Detach the tractor lower links from the mower.
9. Slowly drive the tractor clear of the mower.



**Figure 4**  
*Mower Supported for Dismounting*

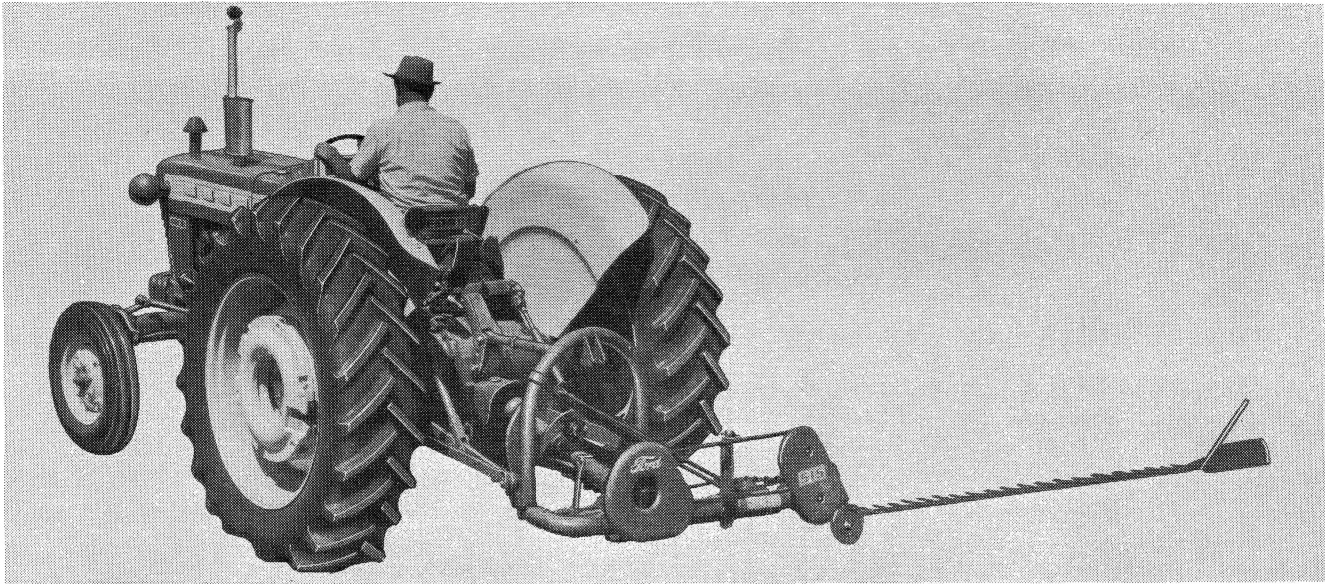
**FORD TRACTOR DIVISION**  
**TRACTOR AND IMPLEMENT OPERATIONS (U.S.)**  
**FORD MOTOR COMPANY**  
**BIRMINGHAM, MICHIGAN**

*"Ford Motor Company, whose policy is one of continuous improvement, reserves the right to make changes in design and specifications at any time without notice and without obligation to modify units previously built."*

## TABLE OF CONTENTS

	<u>Page</u>		<u>Page</u>
<b>GENERAL INFORMATION . . . . .</b>	<b>4</b>	<b>P.T.O. Speeds</b>	
<b>PRE - OPERATION . . . . .</b>	<b>5</b>	<b>Example</b>	
<b>Mower Preparation</b>		Problem	
<b>Tractor Preparation</b>		Solution	
Wheel Spacing		<b>Ground Speeds</b>	
Drawbar		<b>Cut - Free Guards</b>	
Stabilizers		<b>Down Crops</b>	
Tractor Hydraulic System		<b>Turning Square Corners</b>	
Lower Link Height		<b>Finishing a Field</b>	
Top Link		<b>ATTACHMENTS . . . . .</b>	<b>16</b>
<b>Mounting the Mower</b>		Cut - Free Guards	
<b>Dismounting Procedure</b>		Clipping Wheel	
<b>Transport Lock Assembly</b>		Lift Bar Kit	
<b>Transporting the Mower</b>		<b>MAINTENANCE . . . . .</b>	<b>18</b>
<b>ADJUSTMENTS . . . . .</b>	<b>8</b>	Removing Knife	
Cutter Bar Lift		Knife Sharpening	
Cutter Bar Height		Removing Knife Sections	
Grass Stick Adjustment		Replacing Knife Sections	
Cutter Bar Float		Replacing Ledger Plate	
Inner Shoe		Knife Guards	
Outer Shoe		Knife Clips	
Cutter Bar Breakback		Replacing Knife	
Cutter Bar Tilt		Wear Plates	
Square Mower and Tractor		Replacing Inner Shoe Runner	
Drive Belt Tension		and Outer Shoe Sole	
Belt Guides		<b>LUBRICATION . . . . .</b>	<b>20</b>
<b>OPERATION . . . . .</b>	<b>12</b>	<b>SAFETY PRECAUTIONS . . . . .</b>	<b>22</b>
Drive Sheave Sizes and Tractor Gear Ratios		<b>STORAGE . . . . .</b>	<b>22</b>
Drive Sheave Selection Tables		<b>SHIPPING . . . . .</b>	<b>22</b>
Table I (Sizes Available)		<b>ASSEMBLY . . . . .</b>	<b>24</b>
Table II (Engine RPM			
Required for P.T.O. Speed)			
Table III (Gear Selection to			
Match Mowing Conditions)			

## OPERATION



*Figure 1*  
*Series 515 Rear Mounted Mower on Ford 4000 Tractor*

### GENERAL INFORMATION

The Ford Series 515 Rear Mounted Mower, Figure 1, can be used with Ford Tractors and other tractors equipped with a similar three-point hitch arrangement. Four attaching kits are available for use with tractors equipped with either a Category I or a Category II hitch. These attaching kits are:

- 14-288 for all Ford prior models and new Ford 2000 and Ford 3000
- 14-289 for Fordson Super Major and 6000
- 14-318 for Ford 4000
- 14-319 for Ford 5000

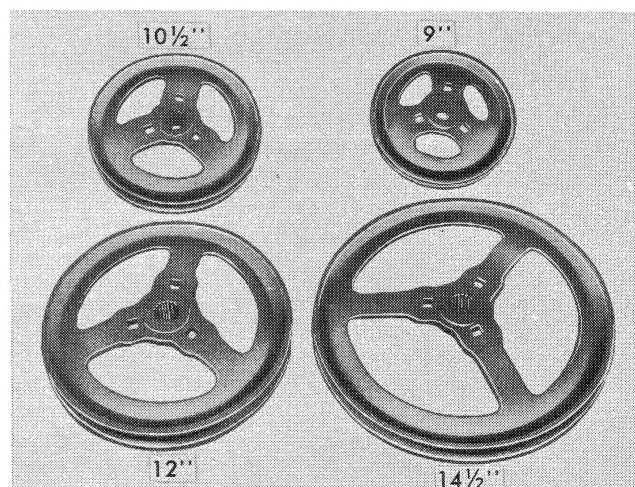
Install the attaching kit as described on page 24.

The Series 515 Mower, Component No. 14-278, is a 56-inch frame, and Component No. 14-279 is a 76-inch frame. The 76-inch frame permits the conversion from cultivating to mowing operations without readjusting the tractor wheel spacing. Either of these two frames will accommodate a six-, seven-, or eight-foot cutter bar.

To accommodate various field conditions and tractor speeds, the main drive sheave is available in four sizes, as shown in Figure 2. Also, plain knife sections are available to replace the standard serrated knife sections when mowing tough or wiry crops.

The mower is fully mounted on the tractor for better maneuverability and is easily mounted and dismounted. The cutter bar is quickly raised and lowered for passage over and around obstacles by using the tractor hydraulic control lever. The wobble shaft drive design of this mower permits cutter bar operation from 15° below to 45° above the horizontal.

Other features of this mower include quiet operation, high capacity, wobble shaft drive (eliminates Pitman), reduced vibration, built-in register, safety breakback, floating cutter bar, single drive belt, quickly replaceable ledger plates, and fast, easy adjustments.



*Figure 2*  
*Main Drive Sheaves*



# OPERATION

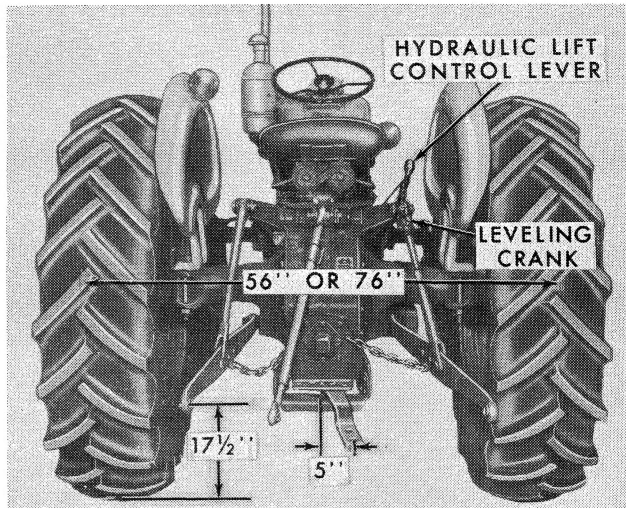


Figure 3  
Tractor Preparation

## PRE-OPERATION

This section contains information which the operator should review before mounting or attempting to operate the Ford Series 515 Mower.

### MOWER PREPARATION

Remove any paint and/or roughness from the knife guards. Polish the knife guards. Polishing guards is necessary if the mower is to be used in damp conditions where trash, dead grass, leaves, etc., tend to stick to guard points.

### TRACTOR PREPARATION

**Wheel Spacing:** Adjust front and rear wheels to 56 inches or less for the 56-inch mower frame, and to 76 inches or less for the 76-inch mower frame.

**Drawbar:** Position the tractor drawbar (when equipped) 5 inches to the right of center, as shown in Figure 3, so the rear drawbar hole will align with the mower bellcrank.

**NOTE:** Install the 14-304 Lift Bar Kit on prior model Ford Tractors not equipped with a swinging drawbar, as shown on page 17.

**Stabilizers:** A stabilizer kit, available from your Ford Tractor—Equipment Dealer must be used when installing the Series 515 Mower.

**Tractor Hydraulic System:** Place the hydraulic selector lever in Position Control.

**Lower Link Height:** Adjust the left lift rod length (if adjustable) to the following lengths:

FORD 3000	— 23 inches
FORD 4000	— 29-13/16 inches
FORD 5000	— 28-1/2 inches
FORD 6000	— 24-1/2 inches

Refer to the Tractor Operator's Manual for the nominal left lift rod length when using a tractor other than those listed above.

Lower the lift linkage with the hydraulic lift control lever until the center of the left lower link socket is 17-1/2 inches from the ground, as shown in Figure 3. Position the adjustable stop on the quadrant so it just touches the lower edge of the hydraulic lift control lever when the 17-1/2-inch dimension is maintained.

Adjust the right lift rod length with the leveling crank until the center of the right lower link socket is 17-1/2 inches from the ground.

This position will provide better mower performance.

**NOTE:** It may be necessary to position the link sockets 1 to 3 inches lower than the dimension given above to obtain adequate cutter bar lift on tractors equipped with smaller-than-average tires.

**Top Link:** Place the top link in the upper hole of the tractor hydraulic rocker for smoother cutter bar operation in the raised position.

### MOUNTING THE MOWER

Tractor stabilizers are required for mower mounting.

Mount the mower on the tractor as follows:

1. Secure the stabilizers to their attaching brackets on the tractor rear axle.
2. Back the tractor to the mower.

## OPERATION

3. Attach the tractor lower links to the mower link pins.
4. Position the stabilizers (if bar type) on the link pins and secure with linch pins as shown in Figure 4.
5. Attach the tractor top link to the mower attaching bracket with a link pin and secure in place with a linch pin. See Figure 4.

**NOTE:** The mower attaching bracket has four holes to provide attaching to various tractors without an adjustable top link. Select the hole that positions the cutter bar flat when extended for operation.

6. Install the breakback attaching bracket as far forward as possible on the tractor right lower link as shown in Figure 5, with the two carriage bolts and nuts holding the bracket and clamp plate together.

**IMPORTANT:** The clamp plate has a short and long side as measured from the bolt holes. Generally, the clamp plate should be installed with the long side toward the mower. This method of installation will provide clearance between the clamp plate and the rear axle housing in the full lift position. On Fordson Major and 6000 Tractors the clamp plate should be installed with the long side forward (away from mower) to clear the drawbar bracket.

7. Attach the breakback assembly to the link pin on the attaching bracket, as shown in Figure 5. Secure with the self-locking pin.
8. Remove any paint and/or dirt from the inside splines of the mower front universal joint and from the tractor P.T.O. shaft. Place a few drops of oil on the splines of the tractor P.T.O. shaft.
9. Depress the spring-loaded lock pin on the front universal joint of the P.T.O. and slide the joint on the tractor P.T.O. shaft, Figure 4, until the pin locks in the groove of the shaft.

**IMPORTANT:** Do not use a hammer to drive the P.T.O. front universal joint onto the tractor P.T.O. shaft.

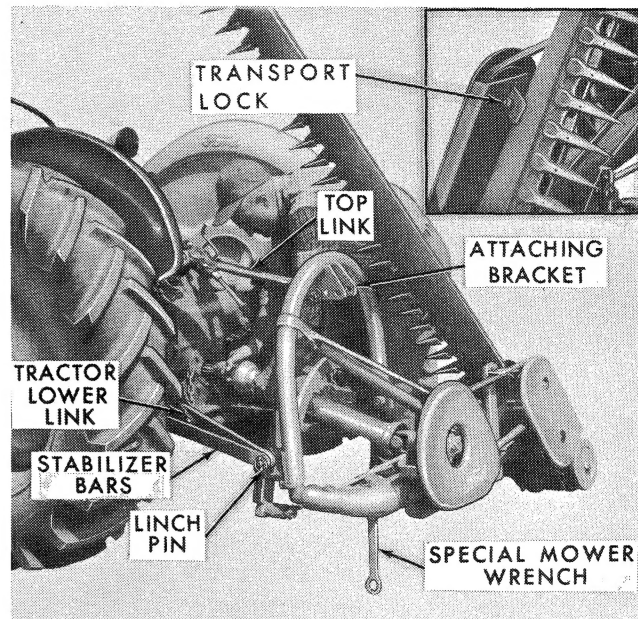


Figure 4  
Mounting and Dismounting Mower

10. Insert the chain pin, Figure 5, in the tractor drawbar and secure with the toggle in the lower end of the pin.
11. Raise the mower, remove the wrench from the stand position, and install it in the transport position. See Figure 4.

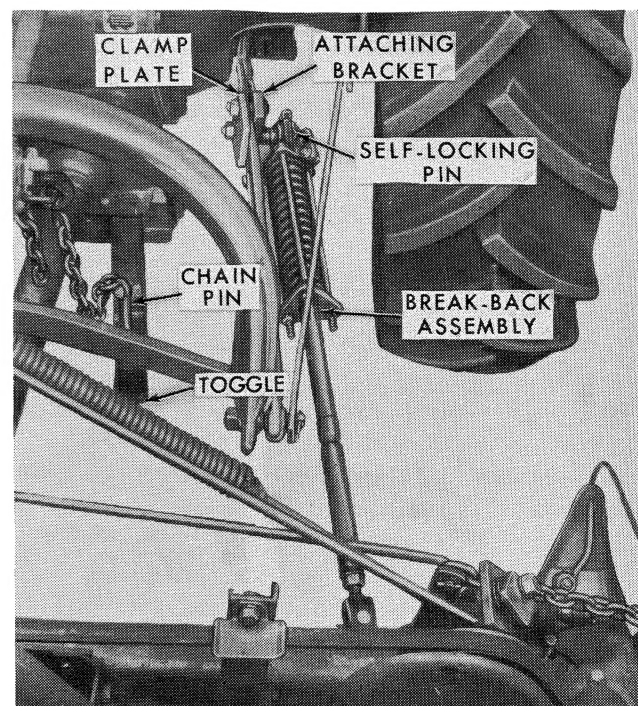


Figure 5  
Mower Mounted on Tractor

# OPERATION

## DISMOUNTING PROCEDURE

To remove the mower from the tractor proceed as follows:

1. Raise the cutter bar to the transport position and secure with the cutter bar transport lock, as shown in the Insert, Figure 4.
2. Position the special mower wrench in the lower frame, as shown in Figure 4. Then, lower the mower with the tractor hydraulic control lever until the mower is resting on the wrench.
3. Remove the chain pin, Figure 5, from the drawbar by aligning the toggle with the pin.
4. Depress the spring-loaded lock pin on the front universal joint of the P.T.O. and slide the joint off the tractor P.T.O. shaft, as shown in Figure 4.
5. Disconnect the breakback assembly, Figure 5, from its attaching bracket by removing the self-locking pin and sliding the breakback assembly off the link pin.

**NOTE:** *If the mower is to be stored for a prolonged period of time, it may be desirable to*

*remove the attaching bracket from the tractor right lower link. However, this will only be necessary if the attaching bracket interferes with other tractor operations.*

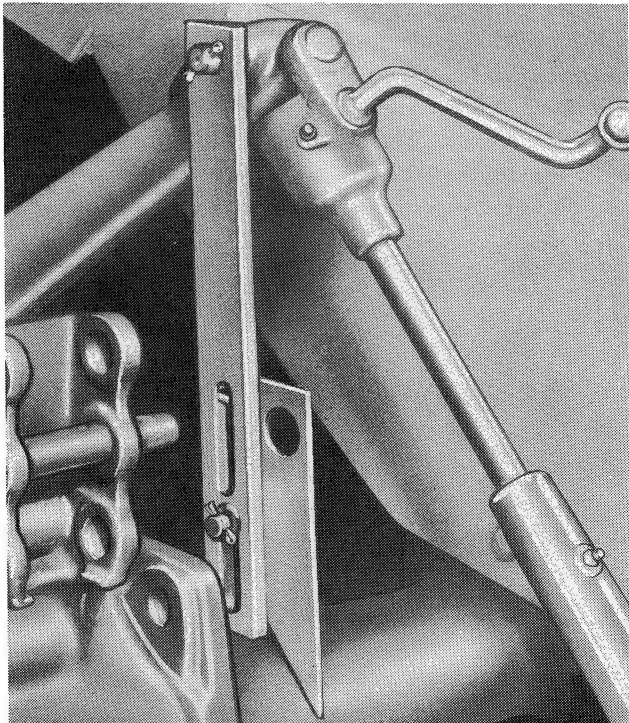
6. Detach the top link, Figure 4, from the mower attaching bracket.
7. Detach the stabilizer bars and tractor lower links, Figure 4, from the mower.
8. Slowly drive the tractor clear of the mower. Then, detach the stabilizer bars from the tractor.



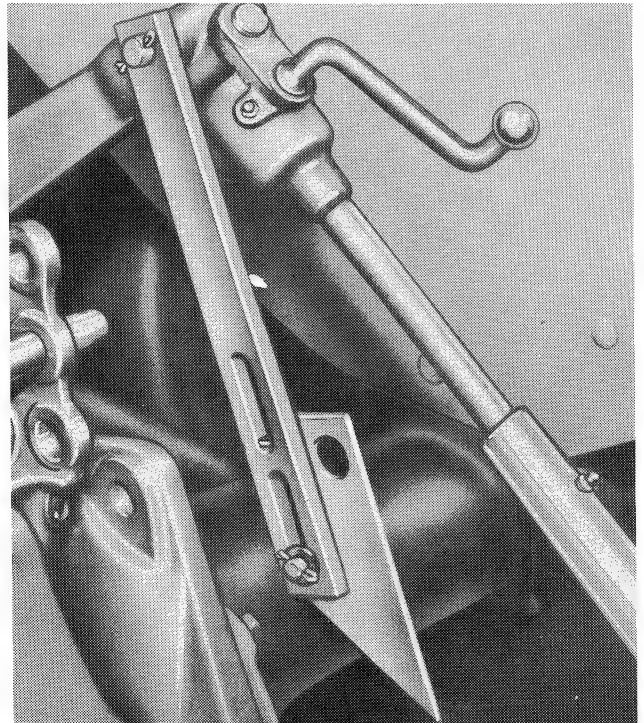
**CAUTION:** *Lay the cutter bar down during storage.*

## TRANSPORT LOCK ASSEMBLY (Sold Separately)

The transport lock assembly, Figure 6, is designed to provide safe transport for the Series 515 Mower when mounted on 9N, 2N, or 8N Ford Tractors or any other tractor not equipped with a live-action hydraulic system. When the P.T.O. is disengaged, the hydraulic pump on these tractors will not operate, which may allow the lift links to settle. The use of the transport lock will prevent the lift links from settling or dropping.



**Figure 6**  
*Transport Lock – In Transport Position*



**Figure 7**  
*Transport Lock – In Operating Position*



## OPERATION



Figure 8  
Mower in Transport

To transport the mower, position the cam in the UP position, then lower the mower until the lock bar rests on the axle housing. See Figure 6. When operating the mower in the field, position the cam in the DOWN position, as shown in Figure 7.

### TRANSPORTING THE MOWER

To fix the mower in the transport position, disengage the tractor P.T.O. and raise the cutter bar by hand to its vertical position, shown in Figure 4.



**CAUTION:** Do not place your fingers between the guards. Grasp the rear edge of the cutter bar to raise or lower by hand.

Secure the cutter bar in the transport position by rotating the transport lock over the cutter bar, as shown in the Insert, Figure 4. Then, hydraulically raise the mower to obtain sufficient ground clearance, as shown in Figure 8. Place the transport lock in the transport position on tractors not equipped with a live-action hydraulic system.



**CAUTION:** When transporting the mower, be careful that the cutter bar does not catch low hanging electric wires or tree limbs.

If the mower is transported on a truck, remove the breakback assembly or swing it to the left and wire

it to the frame. This will prevent any possible bending of the breakback assembly.

### ADJUSTMENTS

#### CUTTER BAR LIFT

The lift chain, shown in Figure 9, controls the height to which the outer end of the cutter bar can be raised. Normally, it is adjusted so the outer end of the cutter bar raises 30 inches with the 8-foot bar, 27 inches with the 7-foot bar, and 24 inches with the 6-foot bar. However, these heights may be varied by changing the length of the lift chain. This can be accomplished by placing the attaching bolt, Figure 9, in the different chain links or by positioning the attaching bolt in one of the other holes in the bellcrank.

**NOTE:** On tractors equipped with smaller-than-average tires, the cutter bar lift at the outer shoe may have to be reduced 6 inches or more to enable the cutter bar to float properly.

#### CUTTER BAR HEIGHT

The height of cut is controlled by raising or lowering the cutter bar shoes. The inner shoe, Figure 10, is adjusted by loosening the three attaching bolts (1), and sliding the shoe assembly up or down. The outer shoe sole, Figure 11, is adjusted by changing the location of the attaching bolt (3) in the various holes. For a uniform height of cut, adjust both shoes equally.

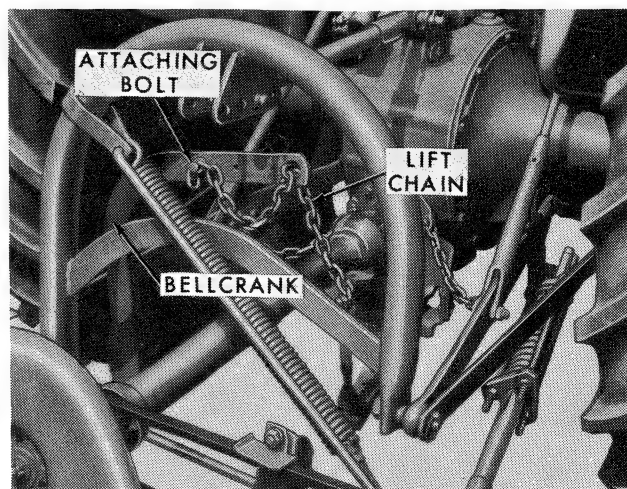


Figure 9  
Cutter Bar Lift Adjustment

## OPERATION

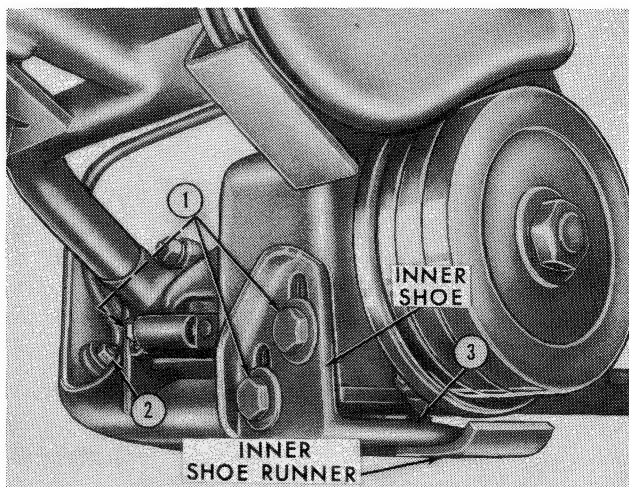


Figure 10  
Inner Shoe Height Adjustment

**IMPORTANT:** Do not operate the mower with the inner and outer shoe carried off of the ground unless a clipping wheel (extra attachment) is used.

### GRASS STICK ADJUSTMENT

For the most efficient mower operation, the grass stick, Figure 11, should be adjusted to leave the widest strip possible between the cut swath and the uncut hay. The grass stick can be adjusted for varied conditions by repositioning the grass stick in the two sets of holes (1) and (2), Figure 11, in the swath-board. Normally, the grass stick is positioned in the front set of holes (2) for short hay and in the rear set of holes (1) for long hay.

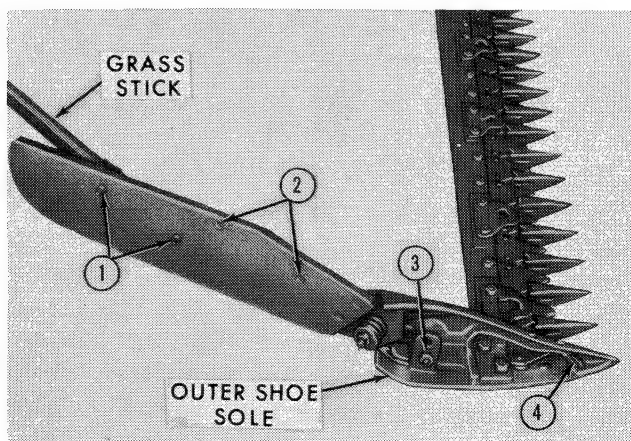


Figure 11  
Outer Shoe Height Adjustment

### CUTTER BAR FLOAT

**Inner Shoe:** The balance spring, Figure 12, controls the weight carried on the inner shoe. To permit the cutter bar to follow the contour of uneven ground without excessive wear on the inner shoe, adjust the balance spring to the spring rod length shown in the Insert and described as follows:

1. Raise the cutter bar to transport position and secure with the cutter bar transport lock.
2. Hydraulically lower the mower until the balance spring is slack.
3. Loosen the lock nut (1), Figure 12.

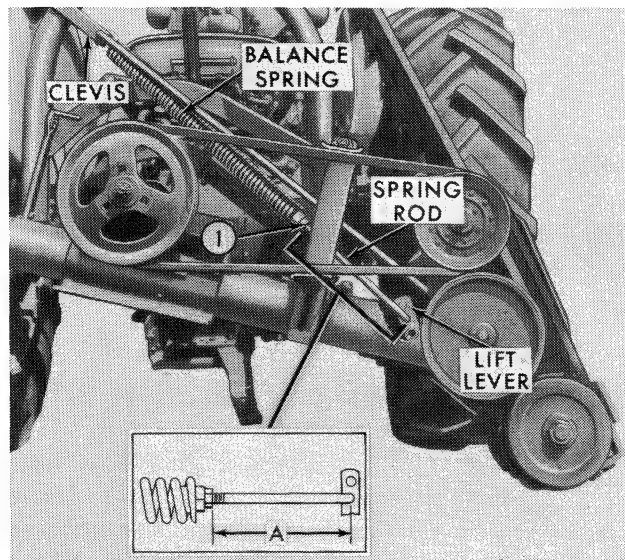


Figure 12  
Cutter Bar Float Adjustment

4. Remove the upper end of the spring from the clevis.
5. Rotate the spring on the spring rod until the length approximately equals: 11 inches for the 8-foot cutter bar; 12 inches for the 7-foot cutter bar; and 13 inches for the 6-foot cutter bar.

**NOTE:** Too much tension on the inner shoe balance spring will cause the cutter bar to bounce; not enough tension will cause the cutter bar to push dirt.

## OPERATION

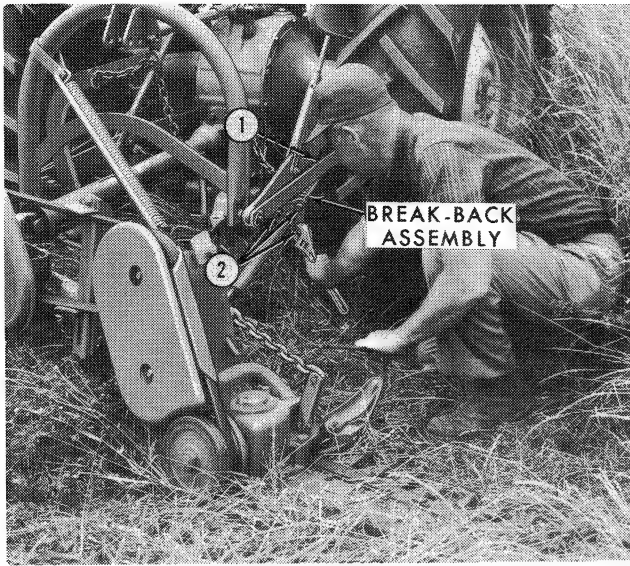


Figure 13

### Cutter Bar Breakback Adjustment

**Outer Shoe:** The weight on the outer shoe should be 25–30 pounds for the 6-foot bar, 30–35 pounds for the 7-foot bar, and 35–40 pounds for the 8-foot bar. To decrease this weight, place the spring rod in the upper hole of the lift lever as shown in Figure 12. Conversely, to increase this weight, place the spring rod in the lower hole of the lift lever.

### CUTTER BAR BREAKBACK

The spring-operated breakback, Figure 13, protects the cutter bar against damage when an obstruction is hit. To provide maximum protection to the cutter bar, the breakback allows the cutter bar to swing back approximately  $45^\circ$  and at the same time it auto-

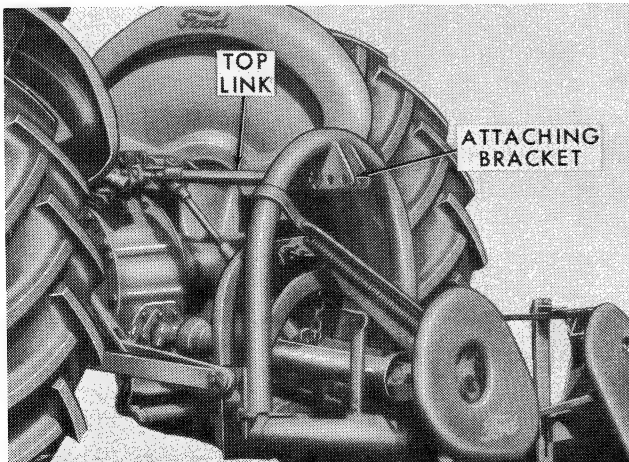


Figure 14

### Cutter Bar Tilt Adjustment

matically raises, allowing small obstructions to pass under the cutter bar. The breakback is easily re-engaged by backing the tractor with the mower in the operating position.

The breakback assembly should be adjusted to hold the cutter bar in its forward position under normal operating conditions. However, to prevent cutter bar damage, it must break back when an obstruction is encountered. Adjust the breakback as follows:

Gradually and equally tighten the three adjusting nuts (2), Figure 13, evenly until the spring is compressed to 10-7/16" (factory adjustment). This adjustment should be satisfactory for all conditions. Tension may be increased slightly but should not be reduced below the 10-7/16" adjustment.

**NOTE:** The adjusting nuts (2) are easier to reach when the cutter bar is pulled back. This may be done by releasing the latch (1) and pulling the cutter bar rearward.

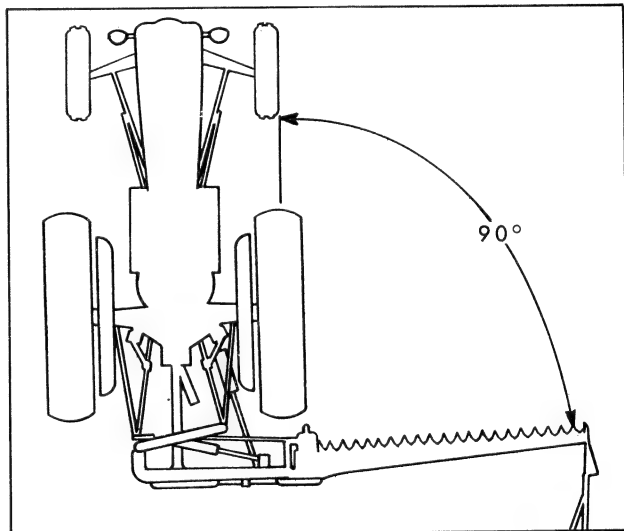


Figure 15

### Cutter Bar Square with the Tractor

### CUTTER BAR TILT

Cutter bar tilt is adjusted by shortening or lengthening the top link, Figure 14. Under normal operating conditions, the cutter bar should be adjusted nearly flat. Tilt the cutter bar up for stony conditions and down for tangled or down crops. Four holes are provided in the mower attaching bracket, Figure 14, to accommodate the various models of tractors without an adjustable top link.



## OPERATION

### SQUARRING THE MOWER CUTTER BAR WITH THE TRACTOR

Adjust the cutter bar so it is square with the tractor and 90° from the direction of tractor travel as you are mowing. See Figure 15.

Adjust the cutter bar as follows:

1. Release the latch on the breakback and pull the cutter bar back.
2. Loosen the jam nut (1), Figure 16.
3. Turn the sleeve, as required, with a pipe wrench at (2).

**IMPORTANT:** Do not use the pipe wrench at any point on the sleeve except (2), or damage will be done to the sleeve surface which may cause the breakback to malfunction.

4. Tighten the jam nut (1).
5. Pull the cutter bar forward until it is latched in position.

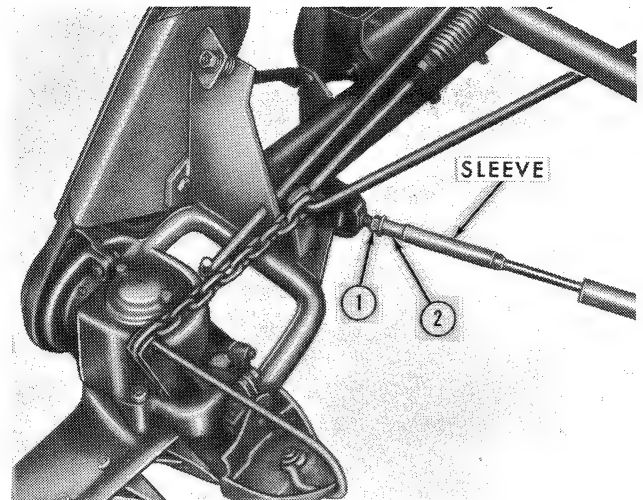


Figure 16  
Cutter Bar Adjustment

### DRIVE BELT TENSION

The drive belt must be properly adjusted to provide long belt life and trouble-free operation. Strike the belt with the hand for an indication of tension. When properly adjusted, the belt should feel “alive” and “springy”. Adjust drive belt tension as follows:

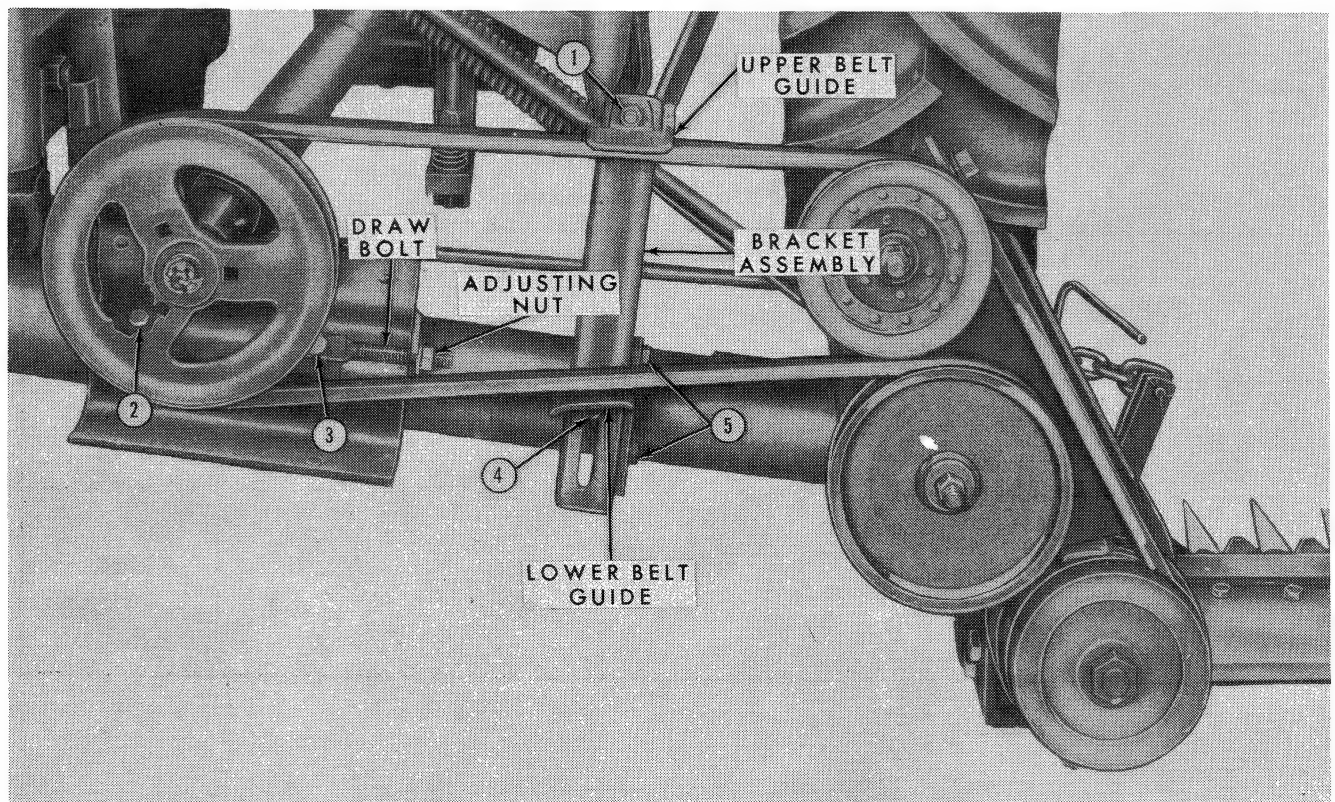


Figure 17  
Drive Belt Adjustments

## OPERATION

1. Loosen the nuts on bolts (2) and (3), Figure 17.
2. Turn the adjusting nut on the draw bolt, Figure 17, until the proper tension is obtained.
3. Tighten the nuts on bolts (2) and (3).
5. Secure the lower guide 1/8-inch from the belt and parallel to the belt with the bolt (4).

### BELT GUIDES

The belt guides, Figure 17, must be properly adjusted to prevent the belt from "slapping" or binding on the guides. To adjust, proceed as follows:

1. Loosen both the upper and lower guide bolts (1) and (4).
2. Loosen the bracket attaching bolts (5) and move the bracket assembly up or down until 1/8-inch clearance exists between the upper guide and the belt.
3. Tighten the bracket attaching bolts (5).
4. Position the upper guide parallel to the belt and secure with the bolt (1).

### OPERATION

#### DRIVE SHEAVE SIZES AND TRACTOR GEAR RATIOS

The following drive sheave sizes and tractor operating gear ratios are recommended for the listed operating conditions when using a Ford Tractor equipped with a 4-speed, 5-speed, 8-speed, or Select-O-Speed Transmission.

**NOTE:** When installing a different size drive sheave on the mower, the sheave bracket must be repositioned to the left if a smaller sheave is being installed, or to the right if a larger sheave is being installed. This will enable the same drive belt to be used, for any of the drive sheave sizes.

### DRIVE SHEAVE SELECTION TABLES

TABLE I (SIZES AVAILABLE)

OPERATING DATA		DRIVE SHEAVE SIZE (INCHES)			
		9	10 - ½	12	14 - ½
KNIFE CYCLES	Recommended	1000	1000	1000	1000
	Maximum	1150	1150	1150	1150
P.T.O. SPEED (540 Speed Range)	Recommended	740	630	550	450
	Maximum	850	720	630	520

# OPERATION

**TABLE II (ENGINE RPM REQUIRED FOR P.T.O. SPEED)**

P.T.O. SPEED	ENGINE RPM			Select - O - Speed Trans. (540 P.T.O. range only )
	4- Speed Trans.	5- Speed Trans.	8- Speed Trans.	
450	1240 rpm	1450 rpm	(a) 1333 rpm (b) 1508 (f) 1585	(d) 1430 rpm (e) 1508 (f) 1585 (g) 1419
520	1433	1670	(a) 1541 (b) 1743 (f) 1832	(d) 1652 (e) 1743 (f) 1832 (g) 1640
550	1516	1766	(a) 1630 (b) 1844 (f) 1937	(d) 1748 (e) 1844 (f) 1937 (g) 1735
630	1736	2023	(a) 1867 (b) 2112 (f) 2219	(d) 2002 (e) 2112 (f) 2219 (g) 1987
720 *	1983	2312	(a) 2133 (c) 2413	(d) 2280 (c) 2413 (g) 2271
740 *	2040	2376	(a) 2193	(d) 2352 (g) 2334

\* Tractors not shown should not be used at these P.T.O. speeds because the engine speeds required to attain the P.T.O. speed is above the recommended maximum engine rpm.

- (a) Ford 2000 and Ford 3000 with Transmission type P.T.O.
- (b) Ford 2000 and Ford 3000 with Live type P.T.O.
- (c) Ford 4000 with Transmission, Live, or Industrial type P.T.O.
- (d) Ford 600, 700, 800, 900, 2000 (1963-1964), and 4000 (1963-1964)
- (e) Ford 2000, Ford 3000, and Ford 4000 (1965)
- (f) Ford 5000 (1965)
- (g) Ford 6000

# OPERATION

**TABLE III (GEAR SELECTION TO MATCH MOWING CONDITIONS)**

NORMAL MOWING (Alfalfa, Clover, etc.)*		
<u>Ford Tractor Transmission</u>	<u>Drive Sheave Size</u>	<u>Transmission Gear Ratio</u>
4 - Speed	9"	3 rd
5 - Speed	10 - ½"	4 th
8 - Speed	10 - ½" 12"	6 th
Select - O - Speed – Except 6000 (540 P.T.O. range only)	10 - ½"	8 th
6000 Select - O - Speed (540 P.T.O. range only)	14 - ½"	9 th
TOUGH MOWING ( Wild Hay or other fine, tough grasses )*		
4 - Speed	9" 10 - ½"	2nd 3 rd
5 - Speed	10 - ½" 12"	3 rd 4 th
8 - Speed	10 - ½" 12"	6 th
Select - O - Speed – Except 6000 (540 P.T.O. range only)	10 - ½" 12"	7 th 8 th
6000 Select - O - Speed (540 P.T.O. range only)	10 - ½"	8 th
LIGHT MOWING ( In areas where crop and ground conditions permit )*		
4 - Speed	14 - ½"	4 th
5 - Speed	14 - ½"	5 th
8 - Speed	14 - ½"	7 th
Select - O - Speed – Except 6000 (540 P.T.O. range only)	14 - ½"	9 th
6000 Select - O - Speed (540 P.T.O. range only)	12"	9 th

\* Based on the recommended 1000 knife-cycles per minute.



# OPERATION

## P.T.O. SPEEDS

After the appropriate size drive sheave has been selected from Table III, use Table I to determine the proper P.T.O. speed that should be used. To prolong the service life of the mower and keep wear of the components to a minimum, the tractor should be operated at the recommended engine speed. However, it may be desirable to operate the tractor at varying ground speeds to satisfy local terrain and crop conditions. If this is done, be sure the maximum P.T.O. speeds, Table I, are never exceeded.

Now that the P.T.O. speed has been selected, use Table II to determine the proper engine speed that is needed to give the recommended P.T.O. speed. Use the tractor Proof-Meter to obtain the given engine speed.

### EXAMPLE:

**Problem:** Determine the size drive sheave, tractor gear ratio, and P.T.O. speed that will give the best mowing results when given the following conditions:

A Ford Tractor equipped with  
Select-O-Speed Transmission.

Crop — alfalfa.

Moderately rough ground.

**Solution:** From Table III it can be determined that a 10- $\frac{1}{2}$ " drive sheave and 8th gear should be used. Table I indicates that the mower should be operated at a P.T.O. speed of 630 rpm. To obtain this given P.T.O. speed, the engine speed should be 2000 rpm as indicated in Table II.

## GROUND SPEEDS

The proper ground speed is determined by the type, condition, and density of the crop; roughness of the ground; and field obstructions (stones, stumps, etc.). Suitable ground speeds are obtained through the use of the various gear ratios. Generally, the higher gear ratios are used in light, easy-to-cut crops and the lower gear ratios for heavy, tough-to-cut crops. Use Tables I, II, and III as a guide in selecting the proper ground speed.

In short, thin crops that do not offer much re-

sistance to the cutter bar, it may be necessary to decrease the ground speed. If stubble cut is long, a reduction in ground speed may be necessary.

## CUT-FREE GUARDS

Cut-free guards, Figure 18, will provide better mower performance under some conditions. Following is a general description of crops and conditions in which use of these guards should be considered.

- Extremely heavy hay that has lodged and tangled and remains damp near the ground so that grass and leaves stick to the points of the heavy-duty guards and cause clogging.
- Where material gathers on the points of the heavy-duty guards and clogs the cutter bar.
- In extremely dense specialty crops such as pangola grass.
- In new crops which are matted with the previous year's growth.
- In loose hay, straw, or trash.

A full set of cut-free guards may be needed for these special conditions. One to three cut-free guards adjacent to the inner shoe will help eliminate clogging caused by loose hay laying against the standing hay. Several cut-free guards adjacent to the outer shoe may also help to eliminate clogging, especially when finishing lands.

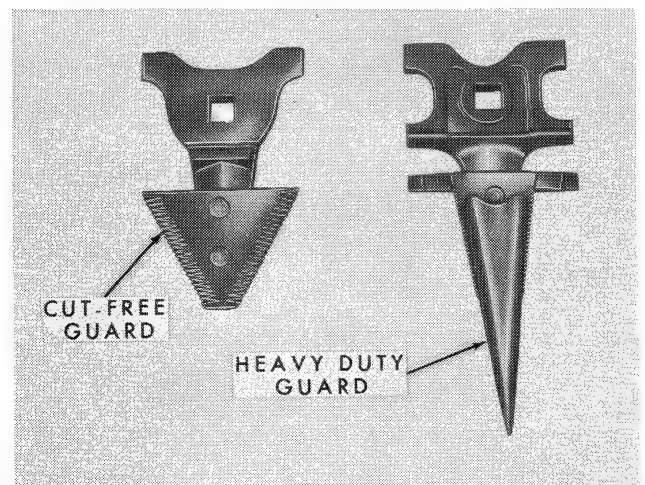


Figure 18  
Cutter Bar Guards

---

## OPERATION

---

The heavy-duty guard, Figure 18, generally works without clogging, and will cut closer and cleaner than the cut-free guard. Cut-free guards should not be used when the following conditions are encountered:

- In wet conditions when dirt, plant juices, and bits of plants pack in the guards under the knife and raise the knife. Heavy-duty guards have an upper lip and will continue to cut when cut-free guards cannot operate satisfactorily.
- In short, fine, tough grasses, the lipless and pointless cut-free guard will not control and cut the grass as well as the heavy-duty guard.

When cut-free guards are used on the cutter bar, the cleanest possible cut will be obtained if the cutter bar is adjusted close to the ground and is tilted down slightly.

### DOWN CROPS

Down crops can usually be cut quite clean if the ground speed is reduced and the cutter bar is tilted down slightly. However, if a severe down condition exists, it may be necessary to mow in one direction. For best results, mow against the direction the crop is laying. Also, remove any burrs or rough areas from the guards and polish them with emery cloth for better results. Oil the guards after each mower use to prevent rust.

### TURNING SQUARE CORNERS

With a little practice, square corners may be turned without stopping, backing, or circling. To obtain square, clean-cut corners, follow the suggestions listed below:

- Slow down just before reaching the corner.
- Drive straight until the center of the rear tractor wheel approaches the corner of the standing crop.
- Then, apply the right wheel brake and turn the front wheels sharply to the right.

### FINISHING A FIELD

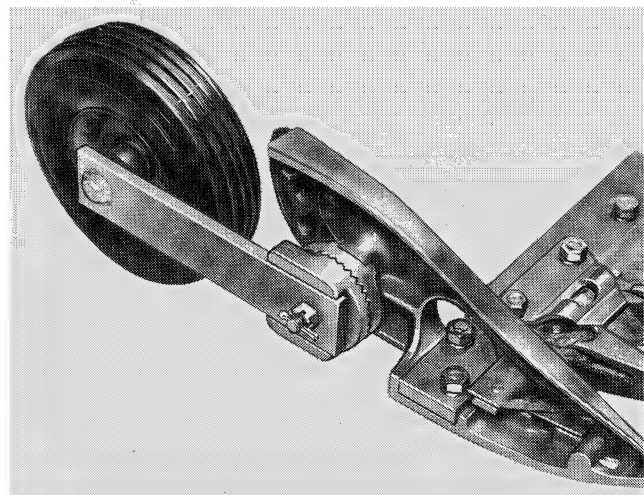
If the last swath to be cut is narrower than the full width of the cutter bar, it may be necessary to raise the cutter bar so it rides just above the cut crop. This will prevent any of the cut material from clogging the cutter bar. Drive cautiously when the cutter bar is in the raised position to prevent excessive whipping of the cutter bar.

## ATTACHMENTS

### CUT - FREE GUARDS

Cut-free guards, Figure 18, are available as extra equipment and are used on the cutter bar when plugging may occur. They may be used on one or both ends, or depending upon conditions, on the entire cutter bar. See "Cut-Free Guards" page 15 of this manual, for detailed information on the application of cut-free guards.

The cut-free guards should be installed with the shoulder tight against the front edge of the cutter bar. The bolts used to attach the guards to the cutter bar must be tightened securely during initial installation and should be retightened after a short period of use.



*Figure 19*  
*Clipping Wheel Attachment*

## OPERATION

### CLIPPING WHEEL

The clipping wheel, Figure 19, allows the cutter bar to work at heights of 1 inch to 9 inches off the ground. This provides the mower with a wide range of uses such as: mowing shoulders of roads; mowing in areas where loose stones and rocks are prevalent; and for clipping weeds in pastures and new seedings.

**NOTE:** The clipping wheel attachment can be used only on tractors equipped with Position Control.

**Attaching:** To attach the clipping wheel, remove the swathboard assembly and outer shoe sole. Then, secure the clipping wheel to the outer shoe with the 7/16" x 3-1/4" heat-treated carriage bolt, slotted nut, and cotter pin, as shown.

**Adjusting Height:** Adjust the height of the clipping wheel as follows:

1. Remove the cotter pin and loosen the slotted nut.
2. Rotate the axle arm and outer serrated washer until the desired height is obtained.
3. Tighten the slotted nut and install the cotter pin.

### LIFT BAR KIT

The lift bar kit, Figure 20, is used on prior model Ford Tractors not equipped with a drawbar. It provides an attaching point for the lift chain pin.

The lift bar kit is easily attached to the tractor with the two heat-treated 7/16" x 1-1/2" hex head bolts and flat washers (3), and attached to the rocker with the longer link pin provided at (2). Secure with the linch pin (1).

**NOTE:** If a tractor P.T.O. Shield (Part No. 231066) is used, a notch must be cut in the shield to facilitate mounting of the lift bar.

Also, included in the lift bar kit, is an upper lift link stop. This stop is used on tractors which do not have a hydraulic position control setting. The stop is attached to the outer side of the upper end of the right lift link, Figure 21, on Ford Tractors, and holds the mower at the proper operating height.

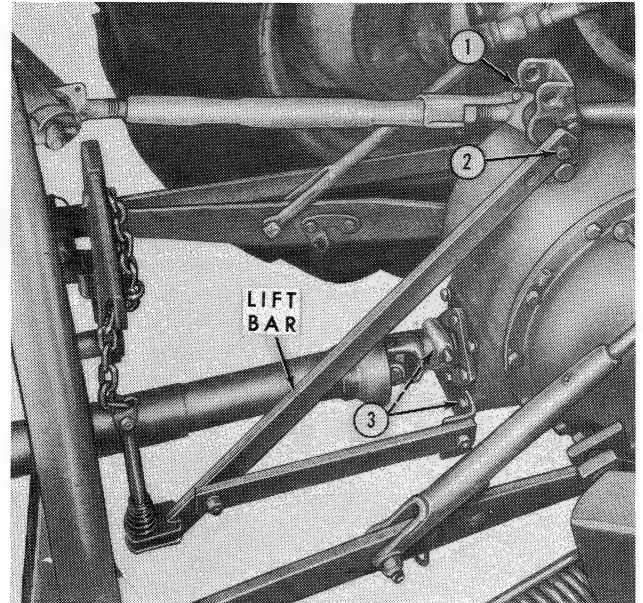


Figure 20  
Lift Bar Installed

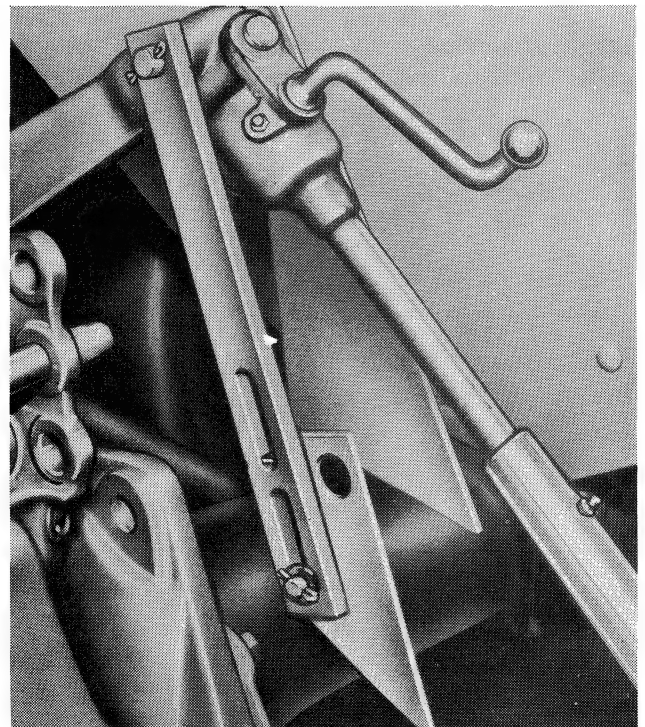


Figure 21  
Lift Link Stop

# OPERATION

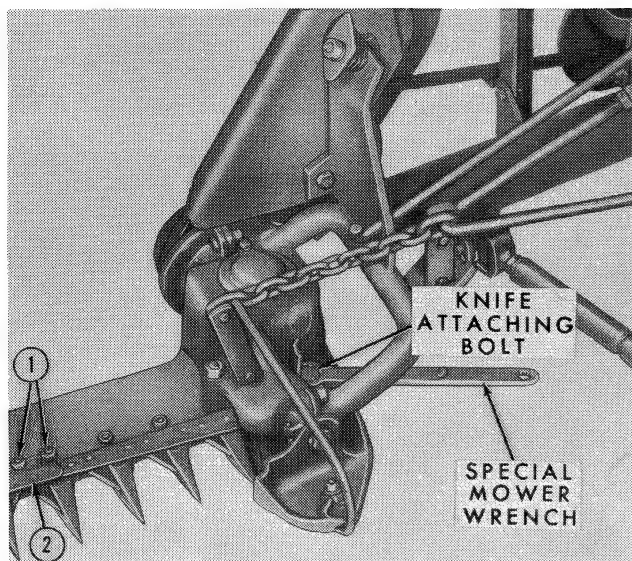


Figure 22  
Knife Removal

## MAINTENANCE

### REMOVING KNIFE

Remove the knife attaching bolt with the special mower wrench, as shown in Figure 22. Then slide the knife out of the cutter bar.

**NOTE:** If binding of the knife occurs during removal, clean any accumulated material out from under the

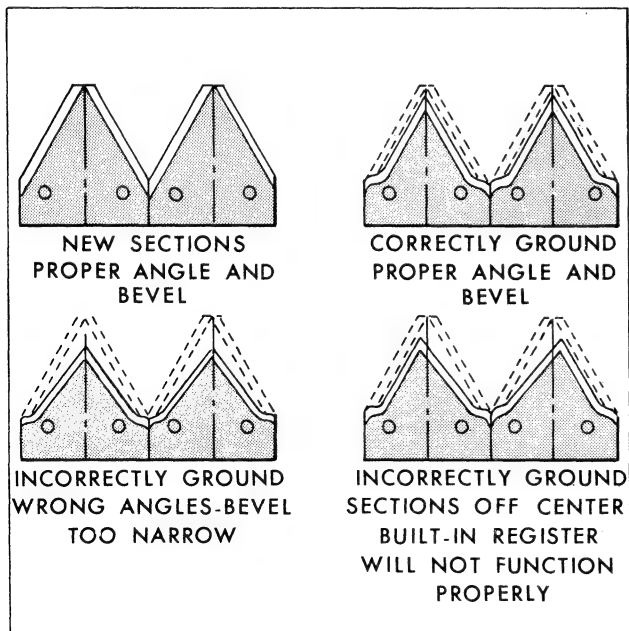


Figure 23  
Knife Sharpening

knife clips (2). If this does not eliminate the binding, loosen all the knife clip attaching bolts (1).

### KNIFE SHARPENING

The knife sections should be sharpened carefully to maintain the original angle and bevel. Figure 23 shows sections which are properly and improperly ground. Replace all broken and worn sections. Check the knife for loose rivets and tighten or replace as necessary.

### REMOVING KNIFE SECTIONS

To remove the knife sections from the knife back, place the section loosely in a vise with the knife back resting on the vise jaw. See Figure 24. Strike the back of the section with a hammer to shear the rivets. Drive the sheared rivets out of the knife back with a punch.

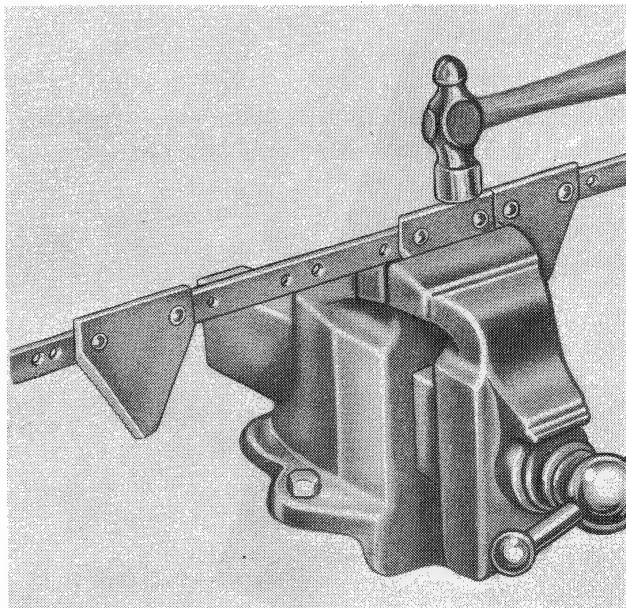


Figure 24  
Knife Section Removal

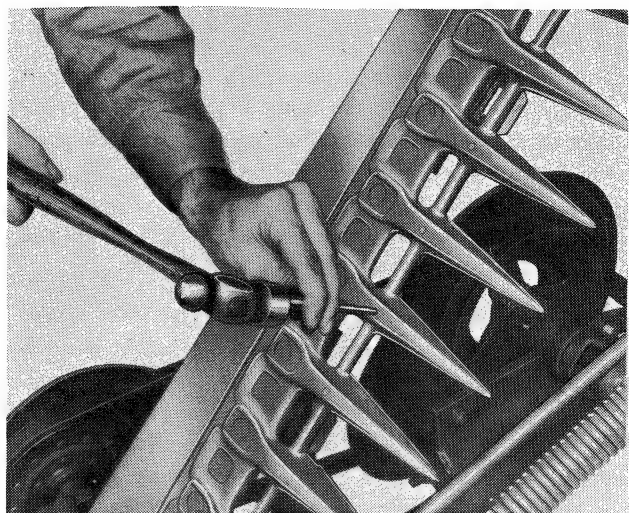
### REPLACING KNIFE SECTIONS

Position the knife section and two rivets on the knife back. Place this assembly on a solid surface with the rivet heads down to hold them in place. Use a rivet set to secure the rivets.

**NOTE:** Set the rivets enough to hold the knife section, but do not over set the rivets or the sickle will be elongated and will disturb the knife section registration.



## OPERATION

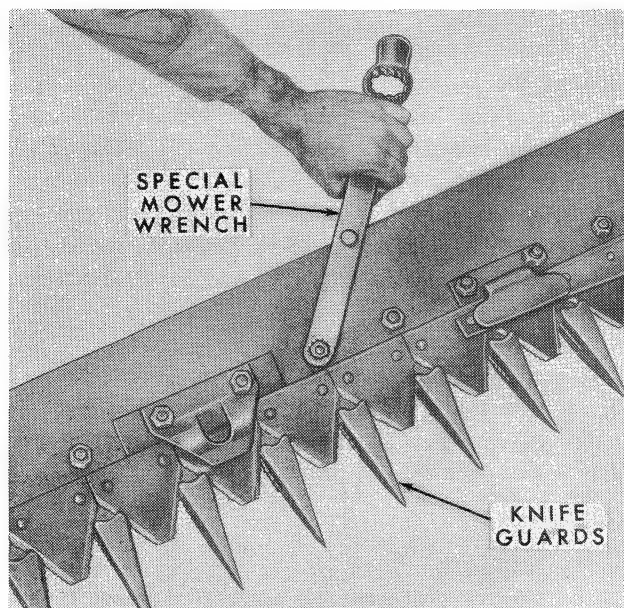


*Figure 25*  
*Removing Ledger Plates*

Check to be sure the section is as tight as possible. The rivet should be upset to completely fill the hole, otherwise it will soon loosen. Suspend the knife so it is free to vibrate and tap it with a wrench. A light tinny rattling sound will indicate a loose section or broken rivet that can be found by closer inspection. Repeat this procedure until all sections have been replaced.

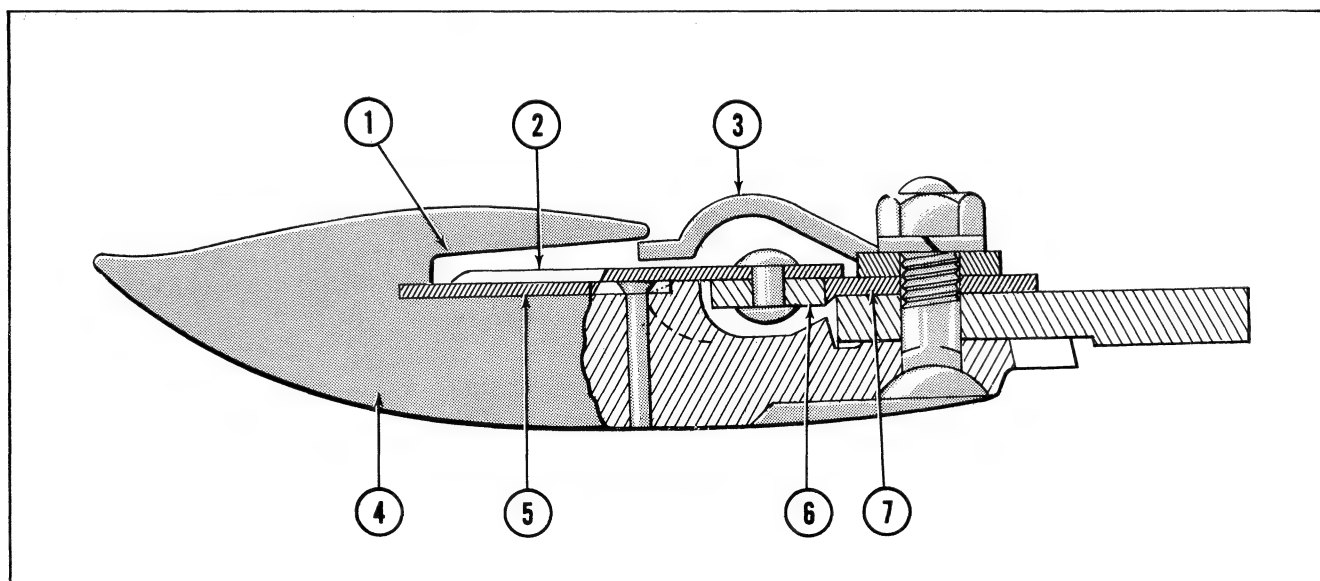
### REPLACING LEDGER PLATES

Ledger plates (5), Figure 27, should be replaced



*Figure 26*  
*Replacing Knife Guards*

if the edges become worn. Dull ledger plates cause ragged cutting and side draft. If several ledger plates are to be replaced, remove the knife and punch the grooved pin out of the guard, as shown in Figure 25. Then, secure a new ledger plate on the guard with a new grooved pin. However, if only one or two ledger plates need replacing, remove the guard from the cutter bar and then proceed to replace the ledger plate.



*Figure 27*  
*Cutter Bar Cross Section*

# OPERATION

## KNIFE GUARDS

All of the knife guards, Figure 26, should align with each other and with the inner and outer shoes. At the same time, the knife sections (2), Figure 27, should be flush with the ledger plates (5). If necessary, align the guards by striking the forward end up or down with a hammer. Be sure the knife guard lip (1) is above the knife clip (3), and is straight, as shown.

All badly bent or broken guards should be replaced. Use the special mower wrench when replacing the guards. See Figure 26. Blunt guards should be repointed by filing or grinding.

## KNIFE CLIPS

The knife clips (3), Figure 27, should hold the knife sections (2), down on the ledger plates (5), without binding the knife sections. Adjust by removing the knife and striking the forward end of the clip up or down.

**NOTE:** Before making this adjustment, make certain the knife guards are in proper alignment.

## REPLACING KNIFE

Position the knife into the guards on the cutter bar. Coat the knife bolt head with a film of grease to prevent it from sticking in the knife bearing bore. Install the knife attaching bolt and tighten to 200 lbs. ft. torque. The knife should slide freely, even when the bar is bowed slightly from being raised off the ground. If the knife binds on the ledger plate of the first guard, check the knife guard alignment.

## WEAR PLATES

The wear plates (7), Figure 27, support the rear of the knife so that the sections will make good contact with the ledger plates and thereby provide good shearing action. Therefore, the wear plates (7) must be positioned so they just touch the knife back (6), as shown. The holes in the wear plates are slotted to provide a fore and aft adjustment.

**IMPORTANT:** It is essential that all the wear plates be in alignment. This will provide a straight bearing surface along the entire length of the knife back.

When the wear plates become excessively worn, they will not hold the knife in its proper position. When this occurs, reverse or replace the wear plates as required.

## REPLACING INNER SHOE RUNNER AND OUTER SHOE SOLE

Both the inner shoe runner and outer shoe sole should be replaced when they become excessively worn. The inner shoe runner is attached with the two bolts located at (2) and (3), Figure 10. The outer shoe sole is attached with the bolt at (3) and the hook (4), Figure 11.

## LUBRICATION

Proper lubrication is a vitally important factor in the efficient operation and long life of the mower. There is a total of thirteen lubrication points on the mower. Lubricate the mower at the points indicated in Figure 28, at the intervals given in the following table.

Reference Figure 28	Description	Frequency	Instructions
1	Upper Idler Sheave (If equipped with a fitting)	Every 8 Hours	1 Stroke of Gun
2	Drive Sheave Shaft	Every 200 Hours	8 Strokes of Gun
3	Rear Universal Joint	Every 24 Hours	1 Stroke of Gun
4	Lower Frame-to-Upper Frame Hinge	Every 8 Hours	1 Stroke of Gun
5	Upper Frame-to-Bellcrank Hinge	Every 8 Hours	1 Stroke of Gun

# LUBRICATION

Reference  
Figure 28

	Description	Frequency	Instructions
6	Universal Drive	Every 8 Hours	1 Stroke of Gun
7	Lift Rod-to-Bellcrank Hinge	Every 8 Hours	1 Stroke of Gun
8	Front Universal Joint	Every 24 Hours	1 Stroke of Gun
9	Rear Cutter Bar Yoke Hinge	Every 8 Hours	2 Strokes of Gun
10	Knife Drive Upper Bearing	Every 100 Hours	Remove cap and re- move as much old grease as practical, and repack bearing with new grease.
11	Knife Driver Lower Bearing	Every 8 Hours	1 Stroke of Gun
12	Wobble Shaft Sleeve	Every 50 Hours	Remove cap – 8 Strokes of Gun
13	Front Cutter Bar Yoke Hinge	Every 8 Hours	2 Strokes of Gun

If the clipping wheel attachment is used, lubricate the wheel bearing every eight hours.

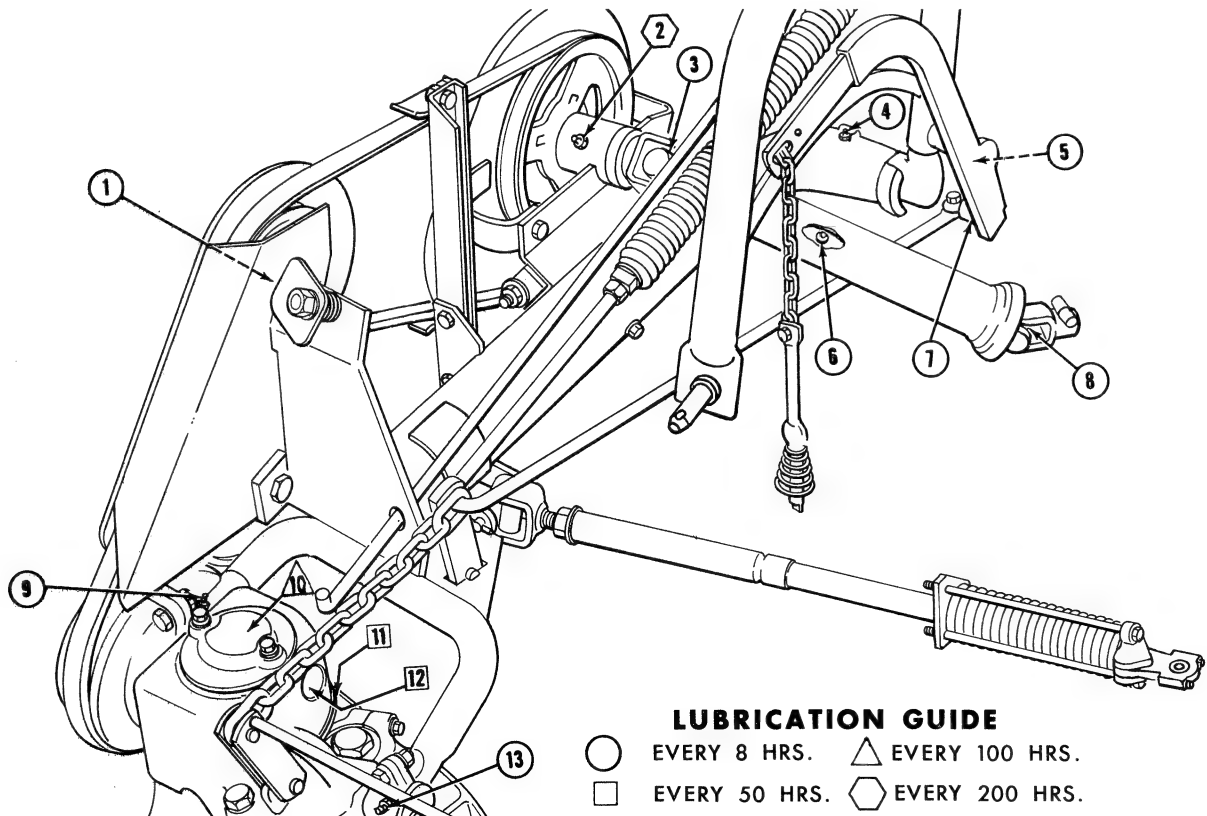


Figure 28  
Lubrication Chart



## STORAGE

### SAFETY PRECAUTIONS



Accidents are generally caused by the failure of individuals to observe fundamental safety precautions. Most accidents can be avoided by following simple safety precautions.

These safety precautions if followed at all times will help you get safe operation from your mower.

1. Never let anyone ride on the mower.
2. Allow only the driver to ride on the tractor.
3. Always disengage the P.T.O. and shut off the tractor engine before attempting to clean, adjust, or lubricate the mower.
4. Always stop the engine when leaving the tractor.
5. Keep all nuts, bolts, screws, and connections tight.
6. Be sure that all safety shields are in place before operating the mower.
7. Do not place your fingers between the guards when raising the cutter bar to transport position.
8. When transporting the mower, disengage the P.T.O. and be sure the transport lock is properly positioned on the raised cutter bar.
9. Keep the tractor keys away from children.
10. Lay the cutter bar down during storage of the mower.

The Tractor Division of the Ford Motor Company, being a member of the National Safety Council, is privileged to use the Green Cross to denote safety instructions in operator's manuals.

### STORAGE

When the mowing season is over, the mower should be thoroughly checked and prepared for storage so

that a minimum amount of work will be required to put it back in operation the next season. The following recommendations are offered to aid the owner in storing the mower correctly.

1. Replace all worn or broken parts. See your local Ford Tractor-Equipment Dealer.
2. Clean the entire mower thoroughly.
3. If necessary, use Ford Spray-Type Touch-Up Enamel to prevent rust and maintain the appearance of the mower.
4. Lubricate the mower thoroughly as directed in the "Lubrication" section of this manual.
5. Remove all the tension on the drive belt.
6. Remove the knife, coat it with oil, and store it in a safe, dry place where the sharp edges are not exposed.
7. Apply a light coating of oil to all exposed metal wearing parts, especially the cutter bar parts.
8. Store the mower in a clean, dry place.
9. Lay the cutter bar down during storage.

### SHIPPING AND ASSEMBLY

#### GENERAL INFORMATION

Assembly of the Ford Series 515 Mower is the responsibility of the Ford Tractor-Equipment Dealer. The mower should be delivered completely assembled and properly adjusted. The following information is designed to assist the dealer in assembling the mower.

#### SHIPPING

The Ford Series 515 Mower is shipped as listed below and shown in Figure 29. Check the contents of the bundles to make sure all parts are received before starting the assembly.

# SHIPPING

Reference Figure 29	Description	Reference Figure 29	Description
1	Mower Cutter Bar	10	Front Idler Shield
2	Knife	11	Owner's Manual
3	Upper Frame	12	Lift Spring Assembly
4	Lower Frame	13	Frame Link
5	Drive Belt	14	Lift Rod
6	Bellcrank and Lift Chain Assembly	15	Grass Stick
7	Upper and Lower Drive Belt Guides and Bracket	16	Main Drive Shield
8	Lift Arm and Chain	17	Idler Shield
9	Breakback Assembly	18	Special Mower Wrench

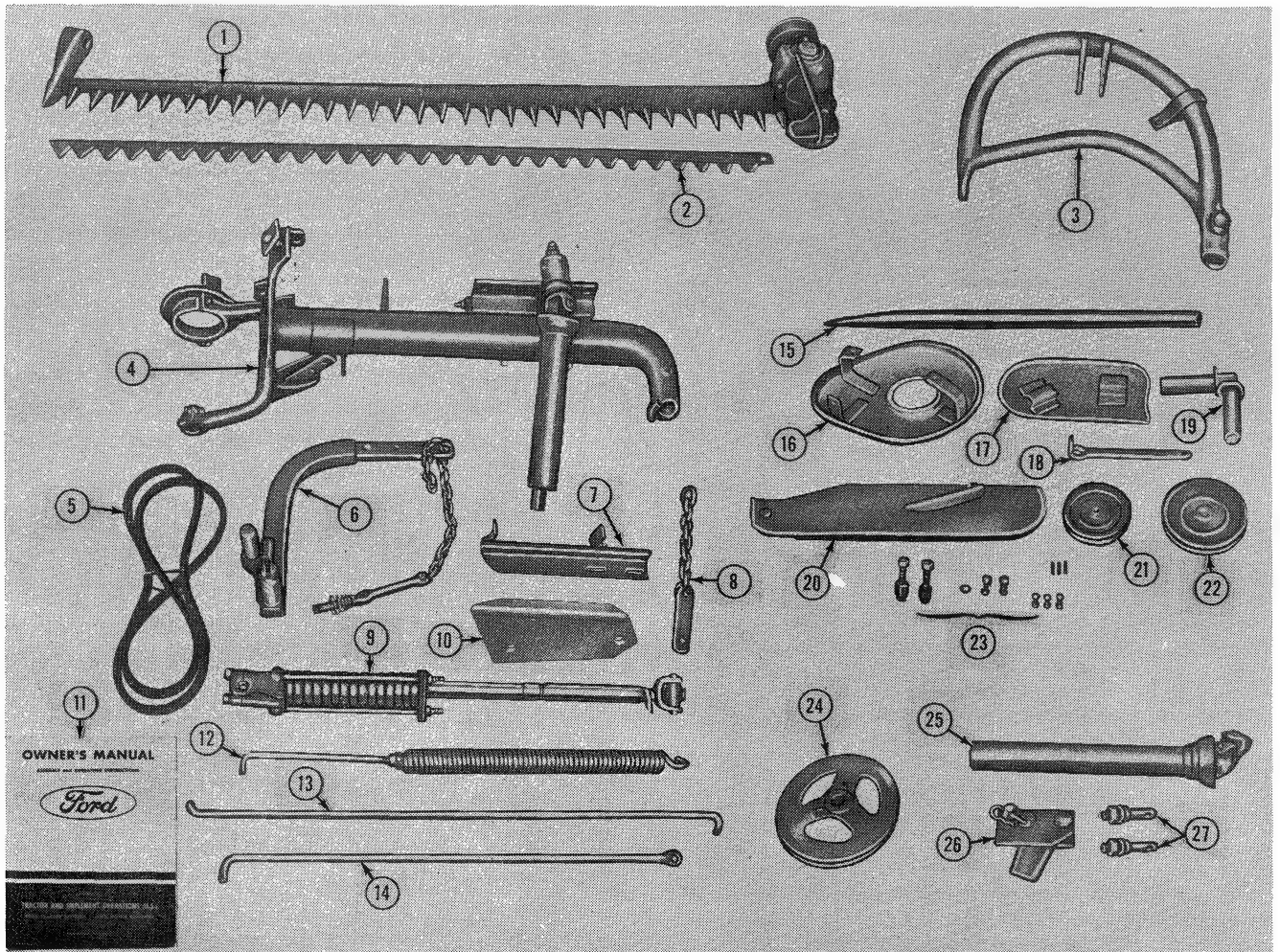


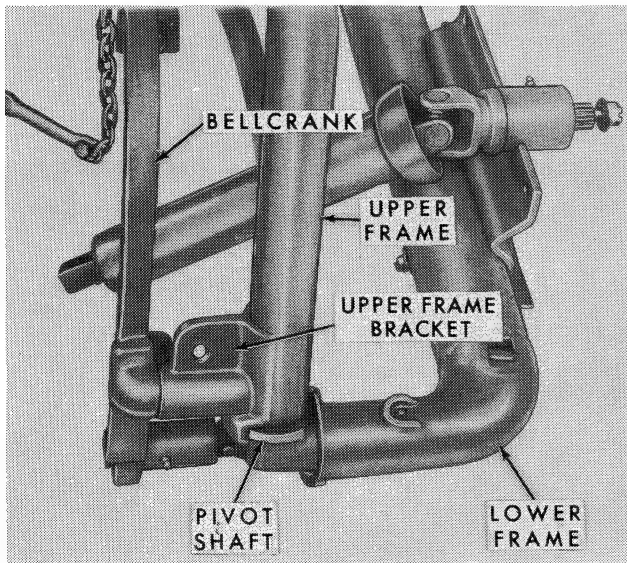
Figure 29  
Shipping Bundles

## SHIPPING and ASSEMBLY

Reference Figure 29	Description
19	Pivot Shaft Assembly
20	Swathboard
21	7-Inch V-groove Idler
22	8-Inch Flat Idler
23	Hardware
24	Main Drive Sheave
25	Front Half of Universal Drive
26	Breakback Attaching Bracket
27	Link Pins

Not Shown Drawbar Upper Link Pin and Spacer (14-289 Only)

Not Shown Transport Lock

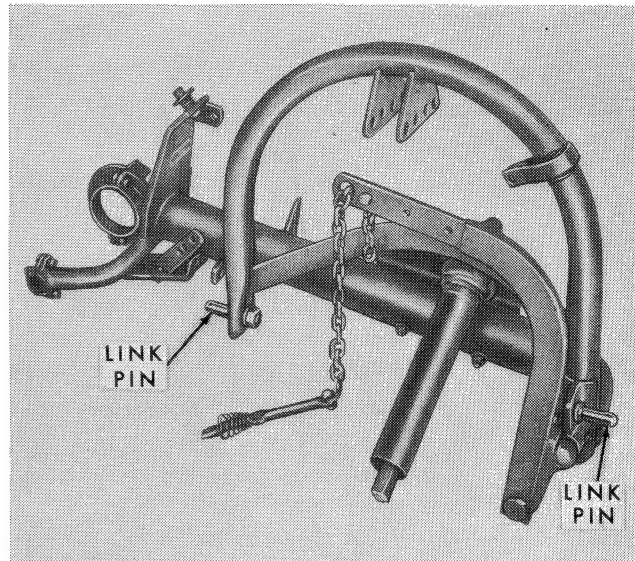


*Figure 30*

*Bellcrank, and Upper and Lower Frame Assembled*

### ASSEMBLY

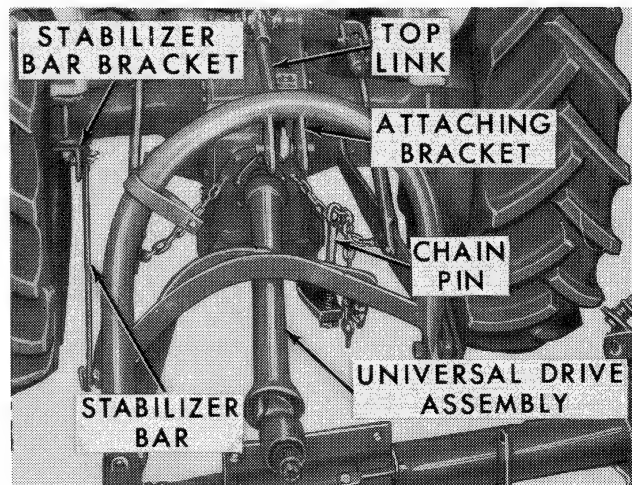
The following procedure involves assembly of the mower and mounting it on the tractor at the same time. Before starting to assemble the mower, the tractor should be prepared as outlined in the "Tractor Preparation" section on page 5 of this manual.



*Figure 31*

*Link Pins Installed*

1. Insert the pivot shaft, Figure 30, in the left end of the lower frame, and rotate until the inner flange on the pivot shaft engages in the outer flange on the lower frame, as shown.
2. Position the left leg of the upper frame on the pivot shaft. Secure by rotating the upper frame until the inner flange on the pivot shaft engages in the outer flange of the upper frame, as shown in Figure 30.
3. Insert the shaft on the bellcrank into the upper frame bracket, as shown in Figure 30. Secure by rotating the bellcrank until the inner flange on the upper frame bracket engages in the outer flange on the bellcrank.

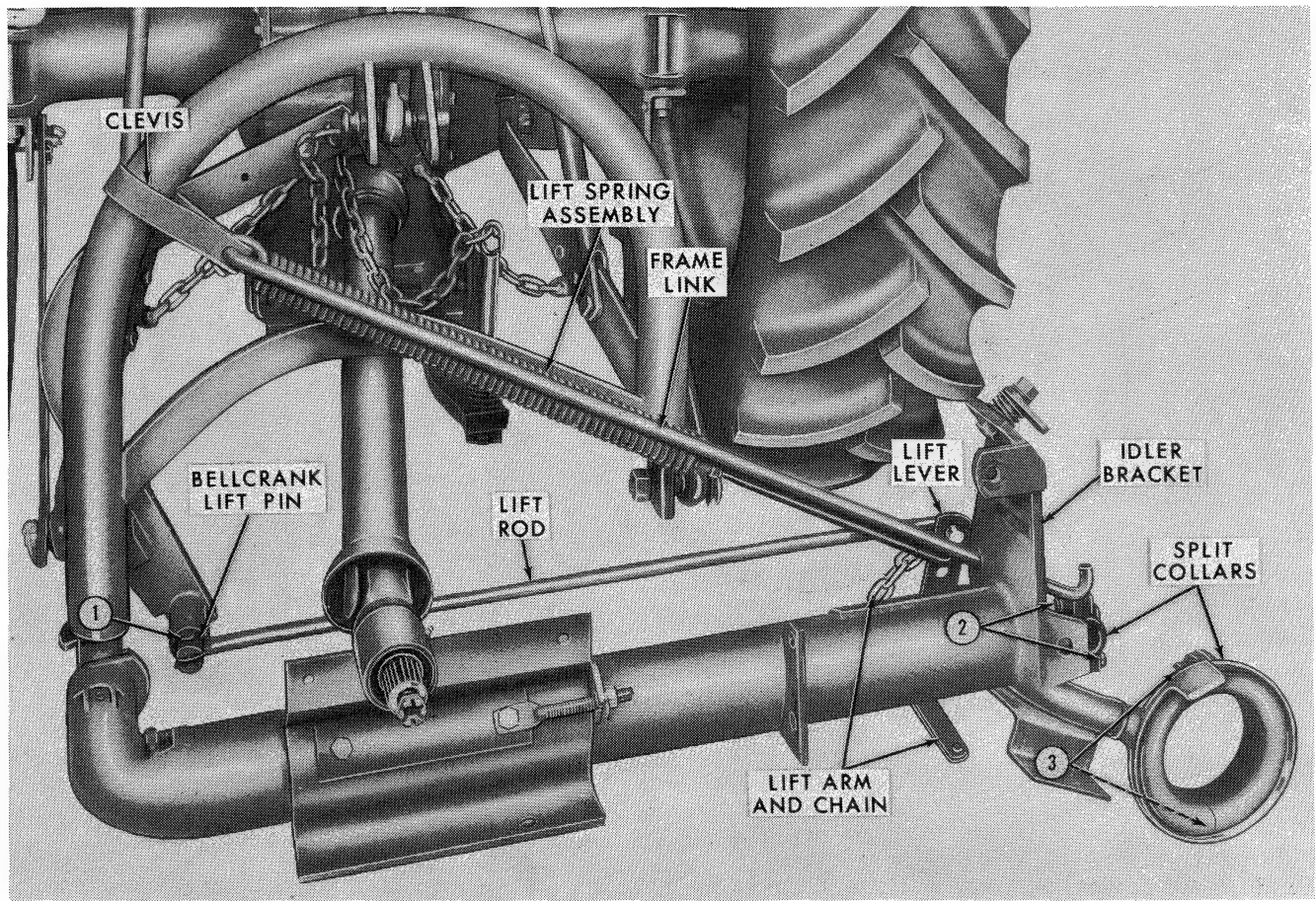


*Figure 32*

*Mower Attached to the Tractor*



## ASSEMBLY



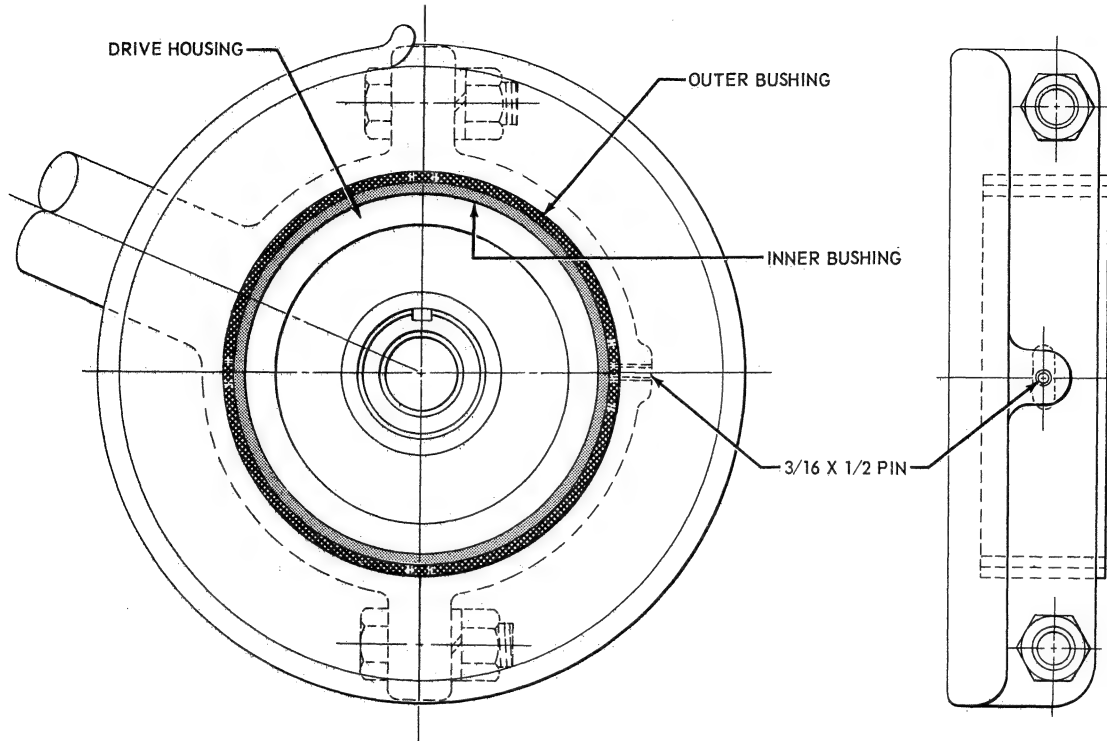
**Figure 33**  
*Cutter Bar Lift Mechanisms Attached*

4. Install the two link pins, lock washers, and nuts in the upper frame, as shown in Figure 31.
5. Attach the partially assembled mower to the tractor as follows:
  - a. Attach the stabilizer bar brackets, Figure 32, to the tractor rear axle housings.
  - b. Attach the stabilizer bars to the brackets, as shown in Figure 32.
  - c. Attach the tractor lower link to the mower link pins. Position the stabilizer bars on the link pins and secure with the tractor lynch pins, as shown in Figure 33.
  - d. Secure the tractor top link, Figure 32, to the mower attaching bracket with the link pin and lynch pin.
  - e. Slide the front half of the universal drive onto the rear half.
  - f. Remove any paint and/or dirt from the inside splines of the mower front universal joint and from the tractor P.T.O. shaft. Place a few drops of oil on the splines of the tractor P.T.O. shaft.
  - g. Depress the spring-loaded lock pin on the front universal of the P.T.O. and slide the joint on the tractor P.T.O. shaft until the pin locks in the groove of the shaft. See Figure 32.
  - h. Insert the chain pin, Figure 32, in the tractor drawbar and secure with the toggle in the lower end of the pin.

**IMPORTANT:** Do not use a hammer to drive the P.T.O. front universal joint onto the tractor P.T.O. shaft.

**NOTE:** Select an attaching bracket hole that most nearly positions the upper frame in a vertical position.

# ASSEMBLY



**Figure 34**  
*Pin Aligned with Grease Slot*

6. Hook the frame link, Figure 33, in the hole in the idler bracket on 56" mower frames or in the special frame link bracket on 76" mower frames.

7. Insert the upper end of the frame link through the hole in the clevis, as shown in Figure 33. Secure with the 1/4" x 1-1/4" cotter hairpin provided in the bag of hardware.

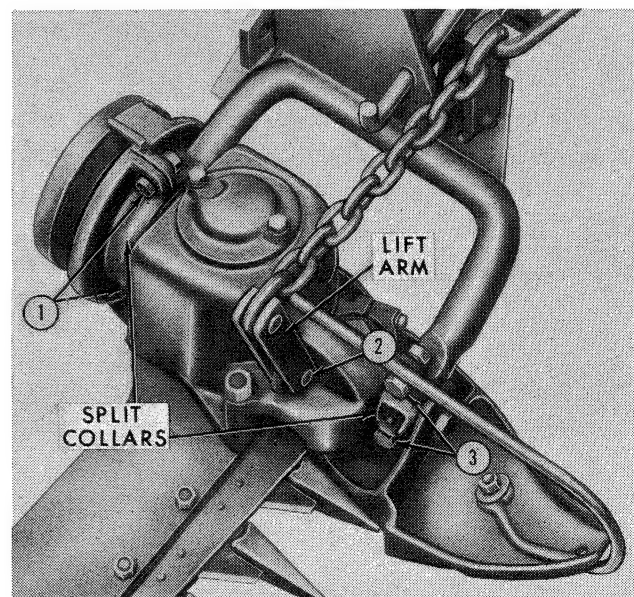
8. Hook the upper end of the lift spring assembly, Figure 33, in the clevis.

9. Insert the lower end of the lift spring assembly in the middle hole of the lift lever for a 7-foot or 8-foot cutter bar, or the bottom hole for a 6-foot cutter bar. See Figure 33. Secure with the 5/8" flat washer and 1/4" x 1-1/4" spring pin provided in the bag of hardware.

10. Position the end link of the lift chain on the lift rod and insert the rod into the lift lever, as shown in Figure 33. Secure with the 1/4" x 1-1/4" spring pin provided in the bag of hardware.

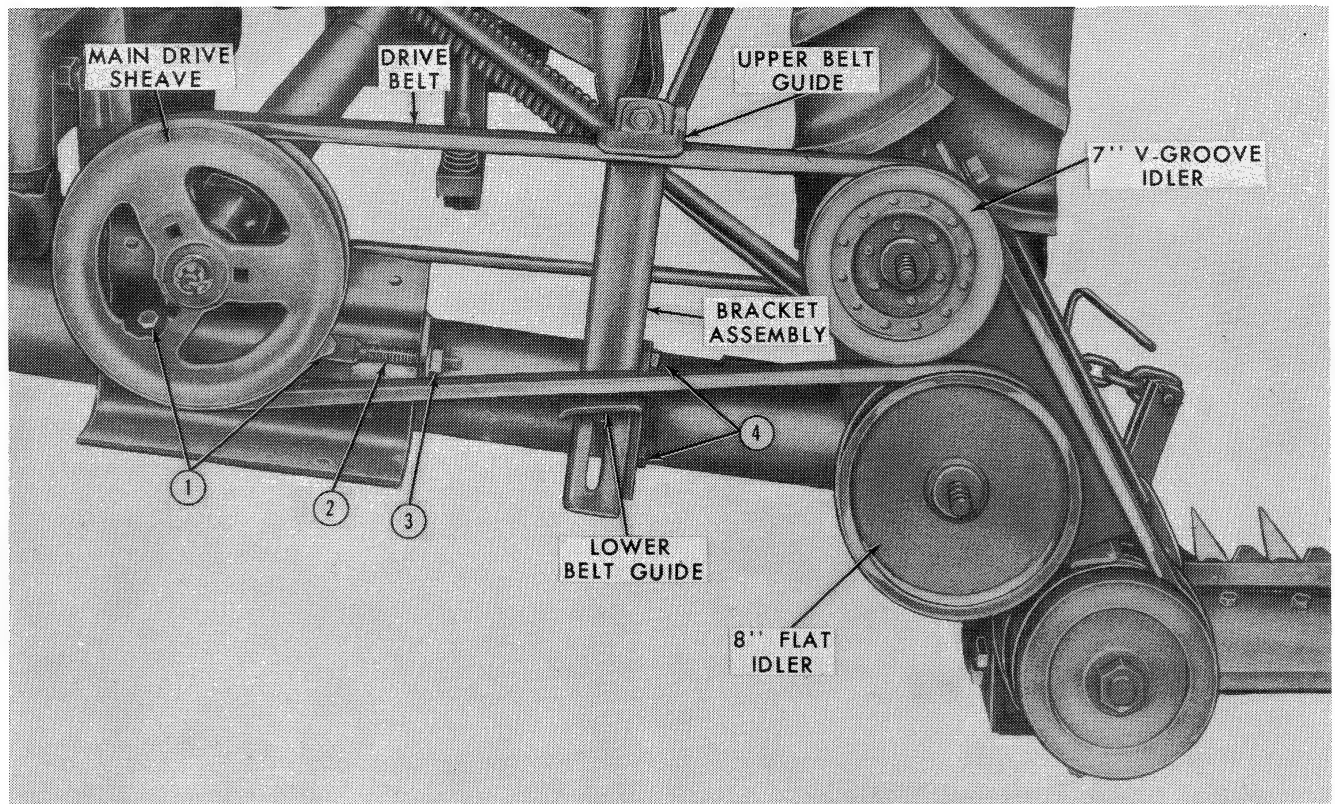
11. Attach the other end of the lift rod to the bell-crank lift pin with the clevis pin (1), Figure 33, and cotter pin.

12. Remove the outer halves of the split collars, Figure 33, by removing the two bolts (2) and the two bolts (3), from each collar.



**Figure 35**  
*Cutter Bar Attached*

## ASSEMBLY



*Figure 36  
Drive Sheaves and Drive Belt Installed*

**NOTE:** Remove any heavy accumulations of paint that may exist on the inner surfaces of the split collars before attaching the cutter bar to the lower frame.

13. Position the cutter bar in the inner halves of the split collars.
14. Install the outer half of the front collar, but do not tighten the attaching bolts.
15. Align the outer bushing in the rear collar so the top grease hole is half covered by the inner half of the split collar.
16. Force the drive housing to properly seat in the inner half of the split collar. Be sure the upper grease hole stays aligned as described in Step 15.
17. Install the outer half of the rear collar so the pin, Part No. 67732-S, is in the 3/4" slot of the outer bushing. See Figure 34. If the pin pushes outward in the collar, the bushing is not properly aligned and the pin has not entered the slot. The

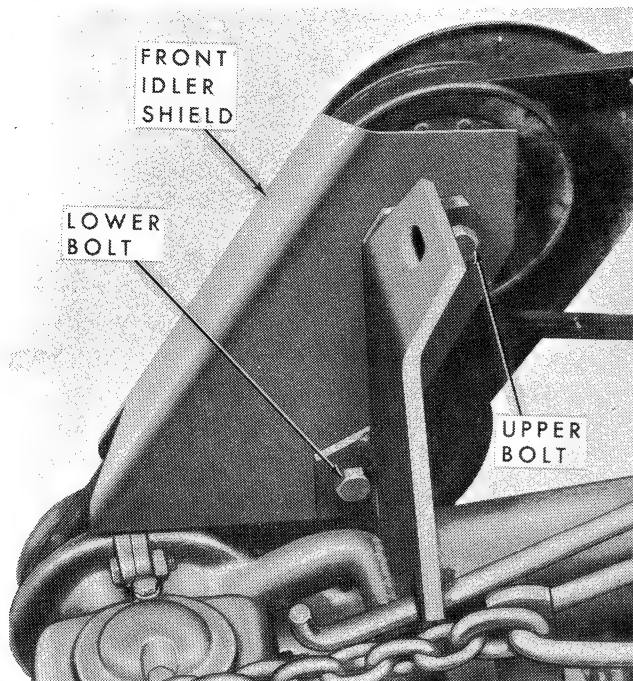
pin must be in the slot to keep the bushing from working back against the flywheel.

**NOTE:** In early 1965 production, some mowers were shipped with the end of the pin flush with the inner surface of the collar. The pin should be driven inward to project 0.100" from the inner surface of the collar.

18. Securely tighten the two bolts (1), and the two bolts (3), Figure 35, in the split collars.
19. Raise the outer end of the cutter bar about 18" and securely support it in this position. Then, secure the lift arm, Figure 35, to the wobble drive housing with the clevis pin (2) and cotter pin. Remove the support from under the cutter bar.
20. Install the main drive sheave on the splined drive shaft and secure with the 5/8" flat washer, slotted nut, and cotter pin, as shown in Figure 36.

**NOTE:** Tighten the slotted nut just enough to remove the end play in the bearings.

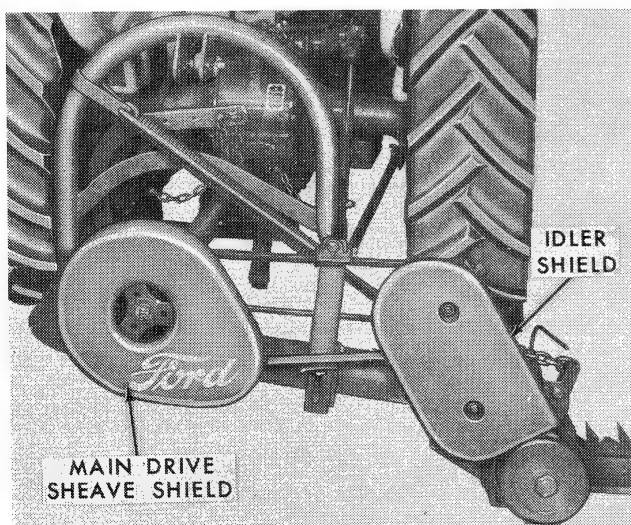




*Figure 37*  
*Front Idler Shield Installed*

21. Install the 7" V-groove idler, Figure 36, on its mounting bracket as follows:

- a. Insert the 5/8" – 11 x 3-1/2" bolt, (provided in the bag of hardware) through the hole in the bracket, and upper hole of the front idler shield. See Figure 37.
- b. Place the 31/32" long spacer (provided in the bag of hardware) on the bolt.

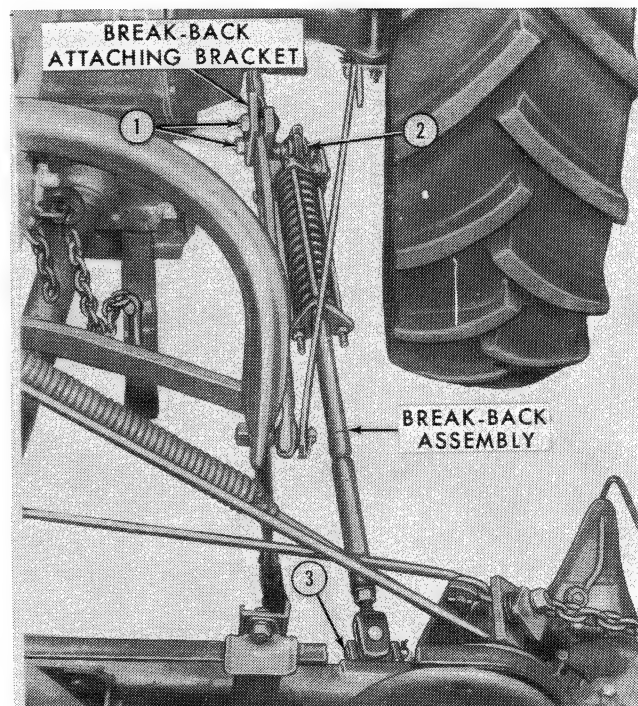


*Figure 38*  
*Shields Installed*

c. Place the idler on the bolt, as shown in Figure 36, so that the grease fitting is to the front of the mower.

22. Install the 8" flat idler, Figure 35, on its mounting bracket as follows:

- a. Insert the 5/8" – 11 x 3-1/2" bolt (provided in the bag of hardware) through the hole in the bracket, lower hole of the front idler shield. See Figure 37.
- b. Place the 1-1/32" long spacer (provided in the bag of hardware) on the bolt.



*Figure 39*  
*Breakback Assembly Installed*

c. Place the idler on the bolt, as shown in Figure 36, so the grease fitting is to the front of the mower.

23. Install the drive belt on the sheaves, as shown in Figure 36.

24. Install the idler shield, Figure 38, on the idler sheave attaching bolts and secure with the two 5/8" nuts (provided in the bag of hardware).

25. Adjust the belt tension by loosening the main drive sheave bracket attaching bolts (1), and turning the nut (3), Figure 36, on the drawbolt (2). When properly adjusted, the belt should feel



## ASSEMBLY

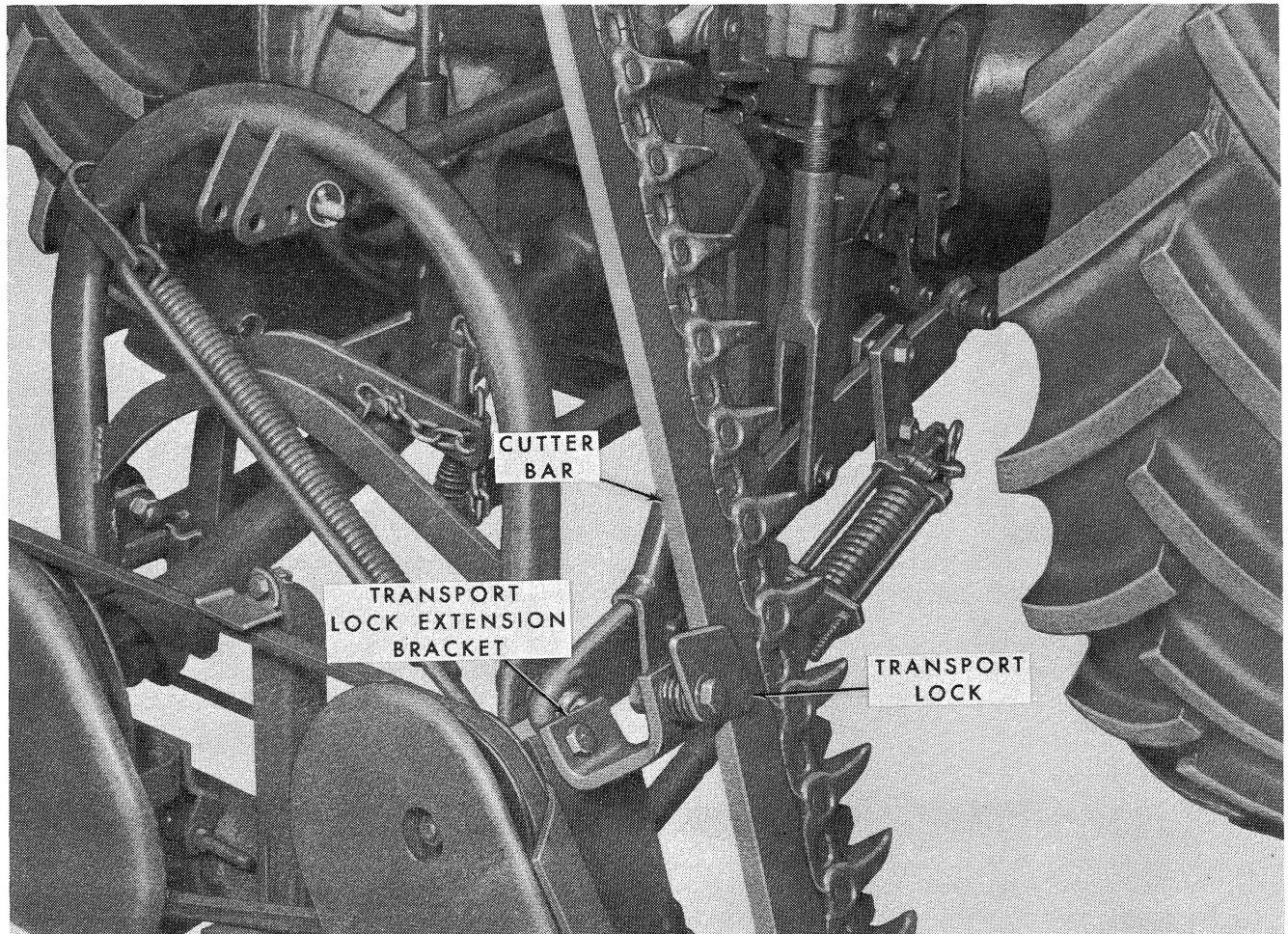


Figure 40  
Series 515 Mower Mounted on a Ford 6000 Tractor

“alive” and “springy”. Tighten the bracket attaching bolts (1).

**NOTE:** It may be necessary to position the main drive sheave support in one of the other four mounting positions to obtain the proper belt tension.

26. Attach the upper and lower belt guides and bracket assembly, Figure 35, to its mounting bracket with the two 1/2" – 13 x 1-1/4" bolts (4), flat washers, lock washers, and nuts (all provided in the bag of hardware). Adjust both the upper and lower belt guides so they are 1/8" from the belt and parallel to it. For detailed information on this adjustment, refer to the “Belt Guides” section on page 12 of this manual.
27. Install the main drive sheave shield, Figure 38, with the three 7/16" – 14 x 1" hex head bolts,

lock washers, and nuts (all provided in the bag of hardware).

28. Attach the rear end of the breakback assembly, Figure 39, to its attaching bracket on the lower frame with the clevis pin (3), and cotter pin, as shown.
29. Install the breakback attaching bracket as far forward as possible on the tractor right lower link, as shown in Figure 40, with the two carriage bolts and nuts holding the bracket and clamp plate together.

**IMPORTANT:** The clamp plate has a short and long side as measured from the bolt holes. Generally, the clamp plate should be installed with the long side toward the mower. This method of installation will provide clearance between the clamp plate and the rear axle housing in the full lift position.

## ASSEMBLY

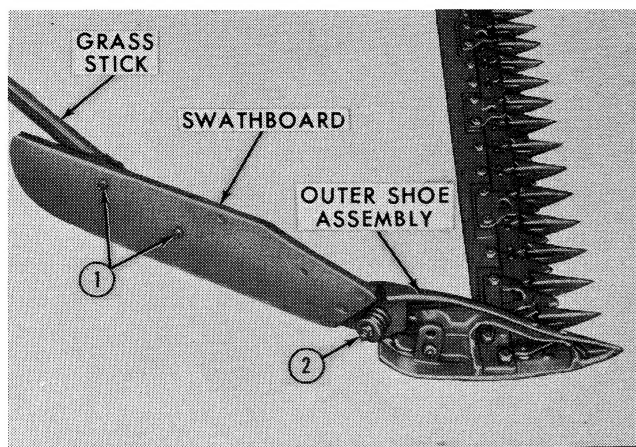


Figure 41

*Swathboard and Grass Stick Installed*

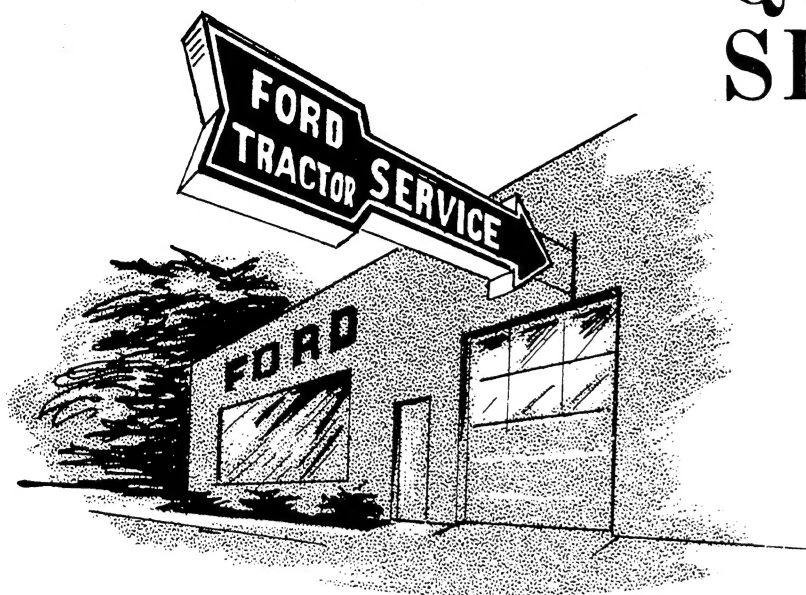
30. Attach the breakback assembly to the link pin on the attaching bracket, as shown in Figure 40. Secure with the self-locking pin (2).
31. **Mounting Kit 14-289:** Remove the transport lock from the mower and install the transport lock extension bracket in its place, as shown in Figure 40. Then, attach the transport lock to the extension bracket.
32. Attach the swathboard to the outer shoe assembly with the 1/2" - 13 x 2-3/4" carriage bolts (2), spring, flat washer, slotted nut, and cotter pin, as shown in Figure 41.
33. Attach the grass stick and clamp to the swathboard with the two bolts (1), flat washers, lock washers, and nuts, as shown.
34. Thoroughly lubricate the mower as outlined in the "Lubrication" section on page 20 of this manual.



Your Ford Tractor—Equipment Dealer's "Quality Care" Service Center is equipped, staffed, and stocked to better serve you. "Quality Care" service is a good investment for longer tractor life and more efficient operation from your equipment.

# HEADQUARTERS for

# QUALITY SERVICE



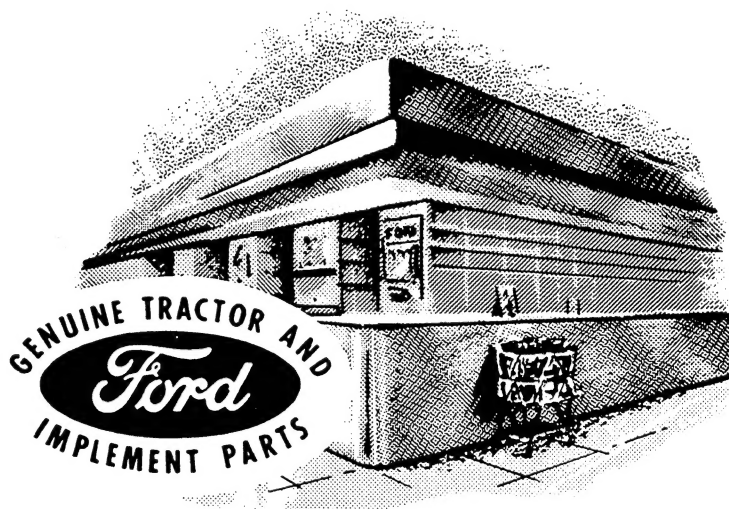
**AND**

**For the Finest Service—In  
the Shop or On the Job:—**

- **Factory Trained Servicemen—  
Who Know Your Equipment**
- **Factory Approved Methods—  
To Keep You "On the Go"  
Longer**
- **Factory Approved Tools and  
Equipment—  
To Do the Best Job Quicker**

**For Dependable—Genuine Ford  
Tractor and Equipment Parts:**

- **Designed and Field-Tested  
by Skilled Engineers**
- **Made of High Quality Materials  
by Precision Manufacturing  
Methods**
- **Fully Warranted by Your  
Dealer**



*whatever your service needs...  
whatever your parts or accessories  
requirements...your Ford Tractor  
and Equipment Dealer is equipped  
to serve you better...for less!!!*



**NEW HOLLAND**

Ford New Holland, Inc. 500 Diller Ave. New Holland, PA  
Printed in U.S.A.